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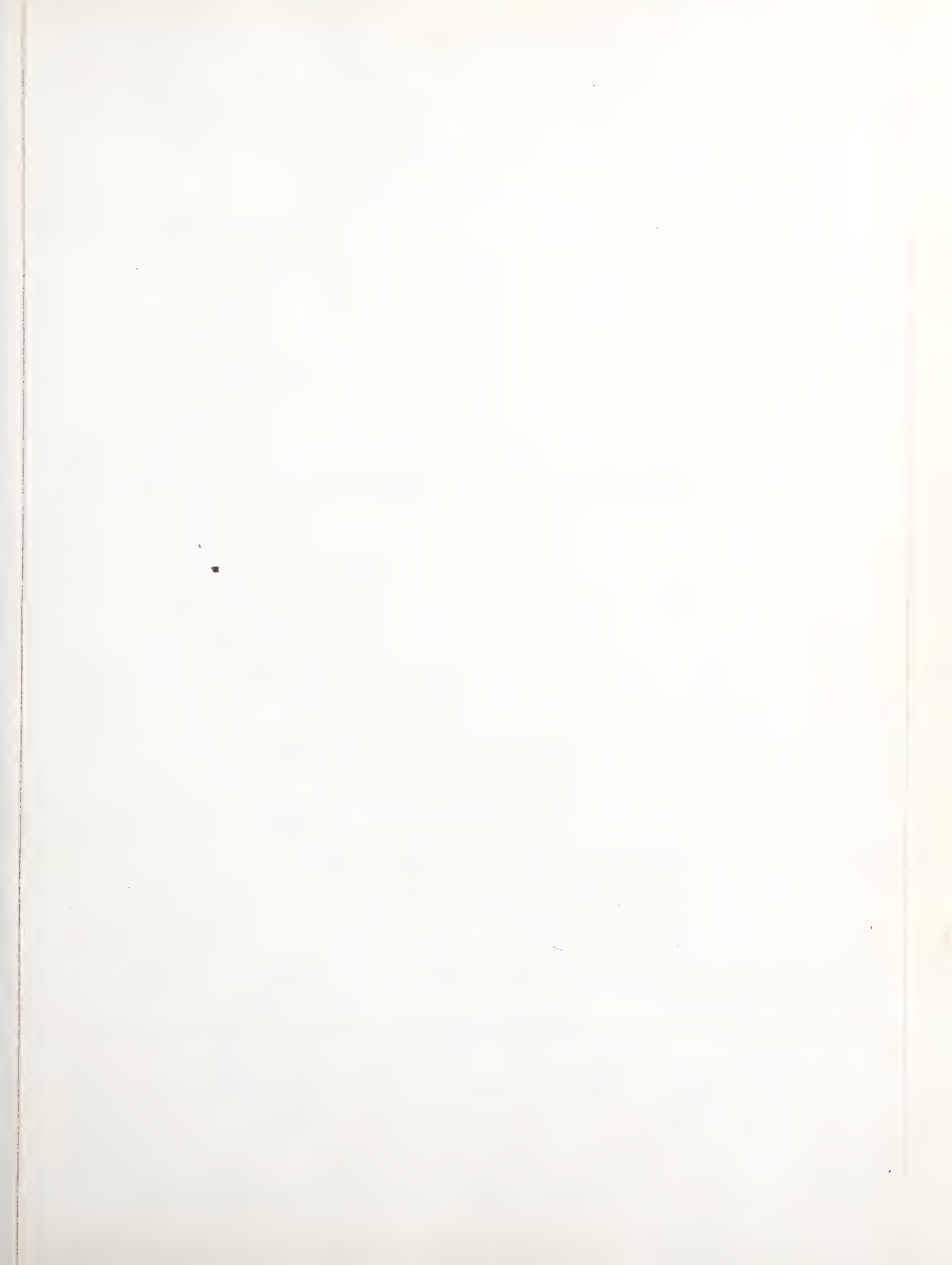
Dissertations
read by the
Candidates for Degrees and Licenses,
at the
Annual Examination
in the
Medical Institution of Yale College,
January 18-20,
1843.

Contents

- I. W^m Coley Betts,
On Pathological and Physiological Action.
- II. W^m Richards Boardman, B. A.
On Hydrocele.
- III. W^m Edmund Booth,
On Diabetes Mellitus.
- IV. Joseph Rowland Brisco,
On Gonorrhea.
- V. Linus Pierpont Brockett,
On Iritis.
- VI. W^m Augustus Brouson, B. A.
On the Pulse.
- VII. George Whiting Burke, A. M. West. Univ.
On Melancholia.
- VIII. W^m Taylor Clark,
On Inflammation.
- IX. Alfred Washington Coats,
On Scarlatina.
- X. Elias Franklin Coats,
On Menstruation.

Contents.

- XI. Robert Crane,
The Valedictory Address.
- XII. David Lewis Saggitt, B.A.
On the Therapeutical Application of Ice.
- XIII. David Hughes, B.A. Univ. Penn.
On the Want of principles in Medicine, and
the difficulties of medical investigation.
- XIV. Monroe Judson,
On Dysentery.
- XV. Samuel Harper Lea, B.A.
On the true character of Medical Science.
- XVI. George Page, B.A. Middl.
On Apoplexy
- XVII. George Edwin Perkins,
On Pleuritis.
- XVIII. Charles Barnes Whittlesey,
On Phloridzin.





I.

Dissertation
on
Pathological and Physiological Action.

By
William Coley Betts,
of Wilton, Connecticut,
Candidate for the Degree of Doctor in Medicine.

An Inquiry into Physiological and Pathological Action

In considering this subject it may be well to begin at the root of the matter. It is a fact that the matter from which all animal forms are produced, is at first without form, a more homogenous mass, contained in a round disk, of simple animal matter. Containing when analyzed elements similar to other animal matter. Hence the first assimilation of new matter, forming vessels, must take place, without the agency of vessels, or any of the parts, or organs which are subsequently formed. Now as to the power, which moved upon, and set this simple organic matter in motion, first forming the vessels, and through them, carrying and depositing its plastic work, and superstructure of this complicated and admirable machine. It may be said that it is the power of the Almighty. Well it is, in the same sense, that the power of the Almighty formed all things, But where is the harm, or what can be the objection, to calling it the vital power, or vital principle, as well as to call certain powers, of which we know nothing, except the phenomena, viz Caloric, Electricity, including perhaps, Galvanism and Magnetism, Gravitation, &c. &c. to explain the various phenomenon produced

by this, as to explain those produced by the above, named powers or principles, the next question which follows in order is, (it being admitted that in the outset, there is a power, and this power may be called the vital power, or vital principle, ^{which} begins the work, in first forming out of a homogenous mass of simple matter, forming vessels through which matter is conveyed, & deposited) does this vital principle, after having done this, cease ~~its~~ to exert its power, thus leaving the car of life, so set in motion, to go on by its own momentum, or rather by the aid of other powers, which come in by the by. viz the powers or circumstances, of its receiving support, through its connection with the mother, and subsequently from the external world, Or does it continue in force, bringing these last named circumstances to its aid, and so continue through life? Why should it cease after having begun the work? Are the other powers sufficient without it? Or is it not necessary, to the formation, completion, and preservation, of this wonderful machine? In short, Is it not necessary, as a formative, preservative, and conservative principle, in the organic and animal world. Man it is known, has a wonderful power, of resisting, & reacting against those agents, and influences, which tend to his destruction. In proof of which, many examples might be given.

if it were necessary. The next question is, what are the laws by which this vital principle is governed, in its connection with man, and to what extent it is alone sufficient to react against and overcome those powers and influences which tend to its destruction, and also to what extent other powers or influences are necessary to be brought in to its aid, to enable it effectually to resist and overcome those powers and influences which tend to its destruction is the question, the solution of which, would give to medical science, a greater degree of perfection than it has attained, or probably ever will attain. With regard to the last question, which is the all important practical question. It might be well to inquire, whether there are any known laws by which it is governed, and if so, what they are; but if not, whether it is not reasonable to suppose, there are laws, governing the organic Kingdom, as well as the inorganic Kingdom, which is known to be governed by certain definite and fixed laws. Are her Elements different? They are the same, but somewhat differently combined. Does this vital principle, of which the inorganic Kingdom is not possessed, make this difference? Or finally, are there not certain definite and fixed laws. And are not some of them known? Is it not unreasonable to suppose that we should be placed here by our maker, amid so many

destructive agents, & left without any guide or compass;
The blind to lead the blind, & of course all to fall into
the ditch; & thus producing amid his Kingdom, an anoma-
lous one. It may be taken for granted that he has not
thus left us. In pursuance of this part of the subject, it
may be well first ^{to inquire} what may be understood by Physiology
or Physiological action. It may be defined to be a proper
balance, & harmonious action of all the functions of life.

It may not be ineptly compared to a sound mind, or what
is usually termed common sense, viz. that it is not a singleness
of the mind, but is the result of a due balance, & harmonious
action, of all the faculties of the mind. If this definition is correct.

Pathology, or Pathological action, must consist in a disturbance
of this balance & harmony of action, in the living economy,
or in a want of due balance & harmony of action, in all the
faculties of the mind just as unsound mind, or want
of what is usually called common sense, is the result of a want
of balance, & harmony of action, in all the faculties of the mind.

It follows then, that if disease, or Pathological action, consists
in, or is the result of, a disturbance in this balance and
harmony of action in the living economy, the indications
are, to assist the vital force, in restoring balance and
harmony of action. Now the question is, how can this best be

accomplished, the solution of which has been and is
the Syllogism (chief walk) of the whole medical world, &
has thus far, baffled all their science and skill. But, if what
some of the most distinguished of the Medical world have
said, be true, an attempt is at least laudable, by "said
system, the practice of physic, consists chiefly, in being
able to discover the true indications, & not medicines to medi-
cine to answer them. They who have overlooked this point, ^{have} thought
improper to imitate physicians." Hucac observed, that "The estab-
lishment of just principles, besides being the proper end of
observation & facts, is certainly what confer upon them their
highest value." Rushel remarked, that we must not forget,
that it is principles, not phenomena, - laws, not unduluted facts,
which are the objects of inquiry." The celebrated (Dr Rush, said
a single just principle in our science, is worth more, or will
lead to more truth, in one year, than whole volumes of uncombined
facts, will do in a century." Waid Lawrence, we have workmen
in the mine and quarry; they have raised & roughly
fashioned an abundance of materials. It appears then,
that if the opinions of these men are true, there are just
principles, & established laws, in the living animal economy.
"British and foreign Medical rev Vol 1st P 110. The
actions of living beings, whether normal or abnormal, are

as amenable to general laws, as those of inert matter,
& the discovery of those laws, is within the reach of those,
who search after them in them in the right track;
"Said the profound Lord Bacon, although nothing
throughout nature, really exists, but individual bodies,
having simple individual actions, according to laws,
yet in everything, that ^{laws} and the tracing, finding out,
and explaining it, is the foundation of science, an experiment;
And said Wardrop. "In endeavoring to explain any of
those phenomena, of organic beings, which have hitherto
evaded research, it may be anticipated that, if such
inquiries be successful, they will not lead to the discovery
of any new laws, but unfold the same simplicity of means,
for performing those operations of the economy, which have
already been discovered." Thus it may be seen, that, if the
opinions of these distinguished men, be correct; not only
is the foundation & most important part of Medical Science,
to discover the true curative indications, the laws by which
the actions of living beings are governed, & the establishme-
nt of just principles, but, that the discovery of these laws,
is within the reach of those, who search after them in
the right track. Now as disease, or Pathological action,
consists in a disturbance of Physiological actions, It

follows in place to inquire. First, in what this altered action consists, Secondly how it can best be restored. It may be well first to consider, what is called Simple Inflammation. By simple Inflammation, may be understood, an irritation in a part, by which a preternatural quantity of blood is drawn to the irritated part, in accordance with the law of, Ubi irritatio Ibi Fluxus producing fullness, redness, heat, pain, & sometimes, tenderness of the part. Now if this definition is correct, there can be no such thing, as a general inflammation, throughout the entire system. For there cannot be more than the whole, or natural quantity of blood in the system, and if this is equally diffused, throughout the system, how can there be any preternatural determination, which is necessary to constitute Inflammation? There probably, may be, and is sometimes, a general fullness of blood in the system, without any preternatural determination to one part, constituting what is sometimes termed, a phlogistic state of the system, or erythema, or erythemic action; but could this properly be called inflammation; since there was ~~no~~ determination, or pathological action; or in other words, while it remained equally diffused throughout the system,

Now that there is greater probability of congestions taking place in this state of the system is generally believed but whether the probability is greater that Inflammation will take place may be examined For example in Apoplexy which occurs in persons of a full habit while Inflammation often occurs in persons of an opposite habit Apoplexy is believed to be a disease of congestion while inflammation may occur & often does without a very great degree of congestion while the system has but comparatively ~~but~~ a small quantity of blood May not this be explained by the fact that in Apoplexy there is a sluggish movement in the circulation & torpor of action while in Inflammation there is celerity of movement in the circulation and violence of action Now as in Inflammation the blood moves with greater rapidity than in Apoplexy. The latter being an affection where there is fullness of the vessels while the former is an affection where there is less fullness - often comparative a small quantity of blood in the system Does it not follow that the blood circulates more rapidly when not full than when full - This being the case would not diminishing it as in venesection be

likely to increase its celerity. Now on the principle of
the Irritation & Fluxus there being an irritation in
a part & the blood being able to move faster while there
is but little comparatively in the system would it not
be drawn to the irritated part with greater violence
thus augmenting the Inflammation - Is not this view
supported by the fact of inflammations especially
of the brain being aggravated by bleeding often
A striking example is related in Mackintosh's Practice
(Vol. 2^d. Page 420) viz. Thomas Mervey was attacked with Fever
in the beginning of 1828. in the course of the disease he required several
general and local bleedings for the removal of slight local inflam^{ms}ations.
On the 21st day of which the fever, when perfectly sensible and
being in a state of very great weakness he told me he had passed
a confused restless night & that he had had some headache
which he attributed to repeated errors in diet & having overloaded
his Stomach. He was relieved by the exhibition of laxative medicines.
On the 23rd day when he was reduced to a state of great debility
he became quite delirious & so furious that it required two
men to hold him down in bed. The extremities were cold - pulse
weak at the wrist of thready smallness & beating 160 to the min-
ute. And his head was hot. There was a small flushed spot on
each cheek. During the two following days four leeches were app-

laid to the head & afterwards ten, without any mitigation of the symptoms. And he was thought to be too weak to bear any further loss of blood. Ice was assiduously applied to the head from the commencement hot fomentations to the legs. Sinapisms to the feet and hot bricks were placed around the extremities. till his legs and feet were cold. The sinapisms although frequently renewed had not produced the least redness. The pulse had become more feeble he raved incessantly. There was Subsultus tendinum to a great degree. The tongue was hard dry fissured & of a dark colour. As neither Coma nor convulsions nor paralysis had taken place & as the pupils still contracted upon the application of light it was thought that no organic mischief had as yet taken place and as the usual means had failed to produce heat in the extremities hot spirit of Turpentine both separately and combined with Aqua Ammonia was applied to the legs and feet but without producing the slightest redness. Blesters had been applied to each leg & thigh the night before but they produced no effect. As a last resource a towel dipt. in boiling water was applied to each foot. This measure succeeded in producing a considerable degree of redness. But it is remarkable that there was only one very small vesication

about the size of a suppurc produced on the test in sleep.
At the moment of the application of the ^{boiling} ~~exposed~~ water he
became calm & sensible - looked about him as if he had woken
out of sleep and knew every person in the room which
he had not done which he had not done for several days.
And he complained of great pain in his feet. The fule soon
became more distinct and frequent & the tongue moist -
blisters were again applied to the thighs. Towards the afternoon
he became worse & at night I found him delirious and
insensitive with subutulus tendinum a dry tongue and
a small quick pulse. The extremities and particularly
the feet were quite cold although warm fomentations
& hot bricks had been alternately applied & although
the scalded feet were dressed frequently with hot spirit
of Turpentine to keep the action which had been excited in
these parts. The blisters which had been renewed on the
thighs had not risen. Boiling water was again applied
to both legs from the knees to the ankles. The relief was
as instantaneous & decided as had been produced by the same
means in the morning but it was permanent & from this
time his recovery went on without a bad symptom. A super-
ficial slough separated from each leg in the course of ten
days & there was some constitutional irritation produced.

during the course of that process; but the ulcerations healed kindly. He was for several months very lame not from the immediate effects of the ulcerations but from the contraction of the flexor muscles of the leg, which inconvenience arose from the bent position in which he kept his limbs during his illness but he gradually recovered the free use of them; and the last accounts I heard six years afterwards informed me that he was in the enjoyment of perfect health and strength & able to earn a livelihood for his family by manual labour. He gives this as an illustration of the importance of strong counter action & that too on the lower extremities. For say he on the same page I beg to enter my strongest against the application of blisters to the head or even to the upper part of the neck in inflammation of the brain. They ought to be applied to the lower extremities. Further he says I urge this recommendation from the results of long & attentive observation; and independently of the disputed theory as to whether the vessels of the head can contain more blood at one time than at another &c — If it be true that every fact involves a principle this fact or the above named facts may be regarded as involving a very important principle & as replete with instruction. Here we have a case of a man who had been or was

ill of a fever & on the 21st day while in a state of great weakness began to have headache with confusion & restlessness - was relieved by the exhibition of laxatives and on the 23^d when reduced to a state of still greater debility becoming quite delirious & so furious as to require to be held in bed - The ordinary treatment applied without effect the extremities becoming cold - Pulse weak at the wrist of thready smallness and beating 160 per minute head hot &c. In short a very marked case of Phrenitis in an extremely weak & debilitated subject with a very small & frequent pulse. Thus it may be seen that the blood moves with great celerity while there is comparatively but a small quantity in the system & also that Inflammation occurs under such circumstances, when there is sufficient irritation it may be very violent. A case occurred about four years since in an adjacent town to this where a man was attacked with Phrenitis of an ordinary habit, was bled early in the disease & phlebotomy repeated several times, cold lotions applied to the head & if I mistake not blisters applied in the region of the head frictions, sinapisms &c applied to the lower extremities. In short the ordinary treatment was followed but the man died I think the third day. Here is presented two examples of the same affection

occurring it is true in some what different habits
so as perhaps to justify bleeding in the one case while
it would not have been & was not practiced in the
other. Each refusing to submit to the ordinary treat
one receiving extraordinary treatment & recovering while
the other not receiving such treatment did not recover
This extraordinary treatment consisting in an artificial
irritation or action being made on the lower extremities
of so violent a nature as probably to exceed in strength
the original Pathological action in the head. May not
this example be used as a Key to let in to the explanation
of various pathological actions & also to explain various
artificial actions produced by various means both in
ternally & externally by which the vital power is enabled
to bring about a Physiological action in the living economy
Now it being true that the whole contains the parts that
make the whole. May not this be considered in that
light being of the highest degree (probably) of Patholog
ical action compatible with life & recovery, and that
therefore that principle of treat which would be effectual
in the highest degree of Pathological action apply
in Pathological actions of a minor degree. There is
a transfer or translation of a powerful Pathological

action from a vital organ to parts of less importance in
the living economy by artificial means or in other words
an artificial disease excited to overcome a natural one
Thus confirming that what is thought to be a law of
the living economy first more particularly observed by
Sir John Hunter viz that two diseases could ^{not} be ~~be~~ ^{re} ~~was~~ ^{not}
maintained in a high state of pathological action at the
same time but that one took the precedence leaving the
other without support. It is true that there are cases of
apparent exceptions to this rule but it is probable that
if they were well understood they would not be found
to be real exceptions or to mitigate against this law
For example a case was presented a few days since
in the Clinic of a man who having received an
injury in the region of the ankle joint a slight cause
had had simultaneously with that tumour or enlargement
of the glands about the groin & also a considerable irritation
in the lungs. Or rather if I mistake not the difficulty
of the lungs was mitigated on the appearance of the enlarged
glands. Also another case was presented previous to that
of a little child that had an enlargement of the glands
of the neck & a considerable irritation in the lungs. But
this fact in connection with it is to be observed viz

As the glands diminished in size the difficulty of the
urine increased & as they enlarged the lung difficulty was
diminished. As there were both of that diathesis commonly
called Scrophulous Diathesis, May not these developments & the
noma be regarded as arising from the same general cause
& in this view be regarded as one disease. And even here
while there was increased action in one part there was
diminished action in the other part. Again for example
in chronic Fistula in Ano as well as numerous other
chronic affections of a similar nature there is not only
a popular notion that it will not do to heal them but
a notion of Physicians that it will not do in very many
cases lest this morbid action be transferred & concentrated
in some other & more important part. A great many exam-
ples of this nature might be named including those produ-
ced artificially as secatons &c but as they all come
under the same law it is unnecessary. It seems to be
a fact then in the living economy not to allow more than
one violent Pathological action to be supported at once
& if as Prof Parker of N.Y. says a law is nothing but a
fact it may be said to be a law of the living economy.
How far this principle or law would apply in the treatment
of Nonmalignant & malignant affections if early & judiciously

applied or administered & whether in malignant affec-
tions especially as fungus haematodes Cancer &c the whole
constitution is or is not so much deteriorated as to forbid
or prevent the successful application of this principle. Or
in other words If a powerful artificial ^{action} were made & kept
up in some part either near or remote thus treating &
concentrating the morbid action & leaving the naturally diseas-
ed part for the vis Medicatrix, Natura a vital power to
do what she could in restoring ^{to} a Physiological condition.
If it be admitted that a law is nothing but a fact &
taking that fact quoted from MacKintosh as a law it
would seem to be so if the conditions were similar & the
changed action sufficiently powerful. Whether in doing this
a liability to the same accusation that Prof. Lee received
from his patient after having used the Rhis Toxicodendron
for Paralysis viz. You have cured me but you have killed
me. Which however was not the case. Now with regard to
this changing Pathological action I would not be understood
to mean that every Path Act of the head must be trans-
lated to the feet & legs though this may be the best place
for it till the vital powers shall have restored the Physiolo-
gical action of the head. And then it may be cured as
quick as possible. It often happens that in affections

of the brain there is a fullness & perhaps congestion of that organ. This state may best be removed by venesection, after which it may be best to make an impression so as to change the current or Pathological action. This may be done internally or externally. Internally by the exhibition of appropriate medicines & Externally as by blisters or rubefacients even to boiling water or some of the stronger Mineral Acids &c if the case demands it just as a judicious physician who manages Diseases according to the indications in the particular case in hand — There is no doubt as is the opinion of Dr Holland that there too much indiscriminate bleeding in affecting of the brain & that if there was more discrimination or a better understanding of their nature there would be less bleeding especially in the different forms of paralysis. Holland's Medical Notes Page 31st The vague conception that all diseases of the brain depend upon some inflammation or pressure which it is necessary to remove too much prevails & directs the practice on them & if the seizure be one of a sudden kind this method of treatment is often pursued with an urgent & dangerous activity. Little heed is taken of the many cases where the symptoms depend upon irritation alone or on a loss of nervous power or in deficient circulation of the blood

within the brain or on altered qualities of this blood
or it may be on morbid change in the nervous subst
ance itself. Further he says Theory might suggest that
in some of these various cases the loss of blood would
lead to mischief. Experience undoubtedly proves it &
there is cause to believe that this mischief though abated
of late years is still neither infrequent nor of small
amount. Again says he. It is certain indeed that there
is a state of brain best perhaps represented to us in its
general effects of diminished nervous power which tends
to produce sometimes Spasmodic seizure. Sometimes delir
ious or maniacal affections. Sometimes palsy of differ
ent parts of the body. These effects being in no wise abia
ted by depletion but rather increased by all such
means. While they are relieved by remedies which tend
to excite the energy of the sensorium & to augment the
general power Page 32^d he says (Delirium preceded
generally by vertigo is known as an effect of extreme
starvation without other obvious disease. as frequently
recorded in the narrative of shipwrecks &c The condition
of the patient in Delirium Tremens on whatever proxim
ate cause this may depend is one of the most
marked instances of that state of brain which any

large depletion might hurry on to fatal result. I might quote
much from this most distinguished observer & profound philosopher
but will quote but once more. Speaking of Coma he says Page 33rd.
The state of Coma is indeed a very ambiguous one as respects
our knowledge of its proximate cause in the ordinary use of the
term the notion pressure is associated with it by most prac-
titioners & this even where it seems but an excess of the condition
of sleep. But it is familiar to us also as a concomitant & token
of the last stage of debility & is often expressly induced by deple-
tion & other depressing causes as well as by those which have
known to produce direct pressure on the brain. Page 34th. Even
in children we have express instances of a state having all
the characters of Coma but which is proved by the precursory
causes as well as by the effects of medical treatment to
depend on general feebleness of circulation & deficiency
of nervous power. There is reason indeed to presume that
the two states just alluded to are really distinct & that
the former is much more nearly akin to the condition of
syncope than that of pressure. Or however related as respects
the nervous substance itself so different in the operation of
the causes producing it as to require a method of treat-
ment altogether opposite. Here then the governance of names
must be put aside & the more carefully from that close

resemblance of symptoms which makes the utmost
distribution of the physician necessary rightly to direct his
practice for their relief. Nor can any rule be given
at once general & exact enough to supersede the particular
judgement in each case. Thus in view of these sentiments
it follows that those physicians who treat diseases according
to their name irrespective of the particular circumstances of
the case are in one respect at least similar to a certain
Physician's horse which while his owner was riding him
in the spring of the year got mired. And it occurred that
he rode him that way in the summer when it was dry
but on coming to this place could not get him along.
This shows that the horse had a better memory than
judgement.

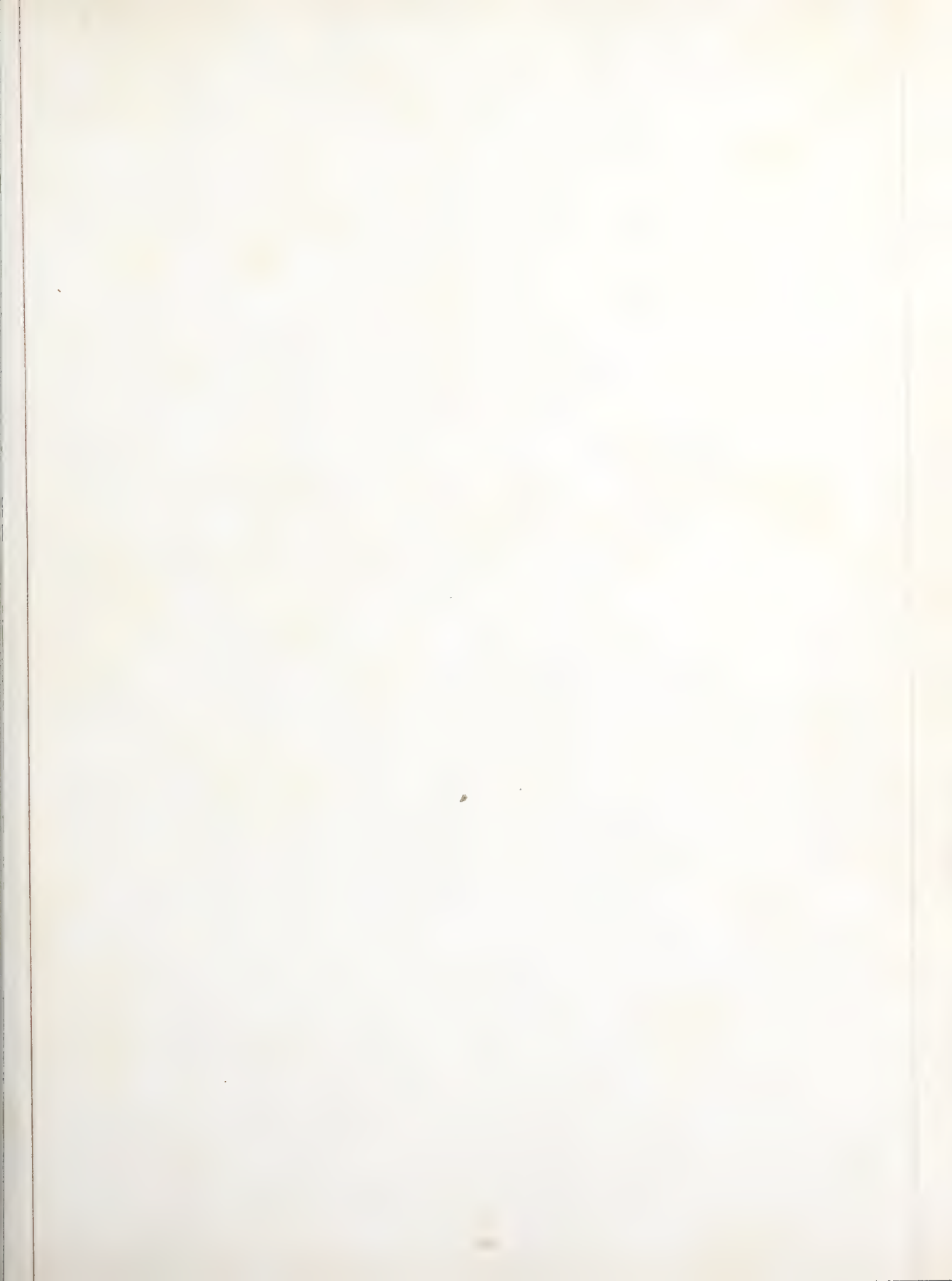
Prof. gives Lecture room 1845. But to return from this somewhat
of a digression & just glance at the history of medicine
Scientific & medicine ^(the latter) quack, of which there is an abundance
from its origin to the present time; including Thomsonianism or igno-
rant quackery - Hahnemannism or learned empiricism & Electro-
Galvanism or Electro. Magnetism or rather Animal Magnetism
& also all quack nostrums. Now all these not only lay claim
to accomplish mighty wonders but it is an indisputable
fact that in their train follows many restorations to say
nothing of the number they kill. Now if it is true that

every organ in the body has its peculiar & appropriate stimulus by which it is excited into action. & If it be true also as said Abucromby that a ^{Physician} ~~Medical~~ man is a blind man armed much more is it true with regard to quacks who according to the doctrine of chance must necessarily wound & destroy to a greater or less extent. It must be that there is a powerful principle in the living economy the tendencies of which is to preserve it in a Physiological condition. If it were not so the system could not withstand the action of so many agents which tend to its destruction. And not only that but making use of those very destructive agents which she is in a Pathological condition to assist her in bringing about a Physiologic^{cal} condition. As for example a man having paralysis of the organs of speech ~~being~~ thrown accidentally from his horse was enabled both to surprise himself & horse by singing who another being cured by eating cucumbers & thereby producing cholera. Now if every fact involves a principle these facts involve a principle & show that by a sudden & powerful impression in the one case & ^{an} artificial disease in the other enabled the vital power to bring about a Physiological condition. May not the explanation of the fact (for fact it is and

facts are stubborn things) that such a great variety and
contrariety, even contradictory practice that has obtained
and of which more or less successful; thus giving rise to
the common saying that doctors disagree. And also to the
marvel of Physicians themselves. viz that it is astonishing
that such contradictory treatment should be so successful.
Also to the fact that disease will sometimes yield
to almost everything in the Materia Medica & even to
impressions on the mind alone. May not all this
be accounted for on the principle of a changed &
translated action or if the remedies are applied
direct of a new action being set up (pathological
it may be called) in the part thus allowing or assis-
ting the vital power in bringing about a Physiolog-
ical action. From the fact that the living economy is
subject to & affected by an almost infinite number & variety
of agents & impressions & the generally admitted opinion that
every agent exerts changes in the Physiological & Pathological
action or condition peculiar to itself & that such agents
may be used to assist the vital power in restoring the proper
balance & harmony of action in the living economy stimu-
late us to untiring industry & perseverance.

New Haven 17th Jan'y 1843

W^m C. Beards





II.

Dissertation
on
Hydrocele.

By
Wm Richards Boardman, B.A.
of Hartford, Connecticut,
Candidate for the Degree of Doctor in Medicine.



Hydrocele.

The operations of nature and the principles upon which she acts in preserving the human frame, and repairing the injuries which it receives, are not all ascertained, even in the present advanced state of physiological knowledge. But there is a principle upon which Surgeons greatly depend, which is well settled, and affords an excellent illustration of the resources of nature. This principle, or mode of action, is called Adhesive Inflammation, in distinction from suppurative and gangrenous inflammation. One peculiarity in this inflammation is that it never occurs in mucous membranes. The suppurative or the gangrenous inflammation may take place in these membranes, but let them be inflamed to any degree; in the lowest or the highest grade, adhesion will never take place. The wisdom of this provision is apparent; for were mucous



membranes liable to adhesion, we should be continually exposed to death from a trifling catarrh, or a slight dysentery. But most of the structures of the body are subject to this inflammation, and, as, before remarked, it is a principle of which the Surgeon often avails himself in the cure of injuries and diseases. In the complaint which we propose to consider, it is the principle on which the most successful treatment is founded.

Hydrocele, consists in an effusion of fluid, which is poured into the tunica vaginalis testis. Like other dropsies, it may either depend upon the increased secretion of exhalents, or on the diminished action of the absorbents. The progress of this disease is slow, and at the same time so devoid of pain, (excepting such as may be produced by the weight of the tumour,) that the patient is seldom aware of its existence until it has attained a considerable size. At the commencement of the disease, the swelling is globular, but as it advances, it becomes of a pyramidal shape. The situation of the testicle, which is at the back and lower part of the tumour, can be readily ascertained by its hardness, by the resistance which it offers to the touch, and by the pain which the patient experiences when pressure is made upon it.

A distinct fluctuation is also perceptible on gently grasping the scrotum. There is generally more or less transparency, according to the thickness and density of the coverings. To ascertain the fact of its transparency, the scrotum is to be grasped in one hand, and the tumour to be squeezed at the posterior part in order to make it tense. Then the other hand is to be applied over the tumour, so as to shade it, and directing a light to be held near the scrotum, the transparency, (when it exists,) can be discerned.

In old cases of hydrocele, the vaginal coat is sometimes so thickened as to destroy the transparency of the tumour. Hydrocele is easily distinguished from other diseases which resemble it by the history of the case, and by other diagnostic marks. In Hydrocele the formation of the swelling is gradual, commencing at the lower part of the scrotum, and proceeding upward; neither is it affected by the position of the patient.

Hernia on the contrary commences above; if the patient be directed to cough, there will be a dilatation of the swelling, arising from the impulse communicated to the contents of the tumour. Another disease which is sometimes mistaken for hydrocele is hematocele,

(which is as its name implies, a collection of blood within the tunica vaginalis testis, or the cellular membrane of the scrotum.)

Several causes may give rise to this complaint, the most frequent of which are the following; wounding the vessels of the scrotum in tapping for Hydrocele, and blows upon the part. It may be distinguished from Hydrocele by the absence of the symptoms peculiar to that disease, and by its having followed the operation for its cure, or by its sudden appearance after a blow. There is sometimes great difficulty in distinguishing Hydrocele from enlarged testicle, but this latter complaint may be known by its weight, by its indurated feel, and by the pain and sickness which are produced when it is handled. There may be an enlargement of the testicle with hydrocele, but this is generally dependent on the continued pressure of the fluid, and will disappear when the hydrocele is removed.

This disease in children may often be removed by administering purgatives, for the purpose of promoting absorption, and applying stimulating substances externally; such as muriate of ammonia, tincture of Cantharides, blisters, Tincture of Iodine.

But these means generally fail in effecting a cure, and an operation becomes necessary.

Of the operations employed, some are merely palliative, while others effect a radical cure.

The palliative mode consists in merely evacuating the water by means of the trocar or lancet. This is performed with no other view than to relieve for a time the inconvenience which is occasioned by the bulk of the tumour, and, consequently, the operation must be repeated as often as the water accumulates in order to secure a palliative effect.

But a radical cure is more desirable, whenever it can be effected. Various means of obtaining this result have been employed, namely; passing a seton through the scrotum; the introduction of a tent into the tunica vaginalis; the application of caustic to the scrotum; incision; and the injection of a stimulating fluid into the cavity of the tunica vaginalis.

The design of these different operations is to excite such a degree of inflammation as shall produce adhesion, between the sides of the tunica vaginalis, or, as others suppose, to change the action of the absorbents, and thus to prevent the re-accumulation of

6
fluid. The operation by injection is the one generally employed at the present day.

Before commencing the operation, the situation of testicle must be ascertained.

The tumour is then to be grasped firmly from behind in order to render the fore-part tense; the trocar and canula are next to be introduced into the inferior and anterior part of the tumour, and to be inclined obliquely upward in order to avoid wounding the testicle. After the trocar has penetrated into the cavity of the tunica vaginalis, it is to be withdrawn, and the fluid suffered to flow out through the canula.

Having taken the precaution to pinch the skin which surrounds the canula, in order to prevent it from slipping out, and the consequent injection of the fluid into the cellular membrane of the scrotum, (which is carefully to be avoided, as it would produce sloughing,) the muzzle of a brass stop-cock attached to a gum elastic bag is then to be attached to the canula, and the injection, (which consists of two parts of wine and one of water) thrown up.

The fluid should be allowed to remain

four or five minutes, or until the patient complains of pain. This will generally be felt in the spermatic cord and loins and sometimes is so excessive as to produce faintness. When the fluid has remained a sufficient time, it is to be withdrawn.

If the patient should experience no pain whatever, the injection may be repeated, or a more stimulating fluid employed, such as sulphate of Zinc, or spirits.

If the injection has produced the desired effect, there will be inflammation, which is indicated by the swelling of the testicle, accompanied with slight redness of the integuments. After the fifth or sixth day the inflammation subsides, and the disease is cured. After the operation, the patient should be confined in a recumbent posture, kept on a low diet, and poultices, or fomentations should be applied, if they are necessary. The tincture of Iodine may be used as an injection in this disease, and is perhaps preferable to any other substance, as it is not liable to produce inflammation and sloughing, if it is injected into the cellular tissue. It is to be used in a diluted state; one part to six of water.

William R. Beardman.

III.

Dissertation
on
Diabetes Mellitus.

By
Wm Edmund Boole
of Newtown, Connecticut,
Candidate for the Degree of Doctor in Medicine.

Diabetes.

Diabetes is derived from the two Greek words [Dia through and Baiva to pass] voiding a preternatural quantity of urine. There are two kinds of Diabetes Serous and Mellitus. In the first the urine is limpid and of its usual urinary taste and is usually symptomatic. In the second Mellitus the urine contains sugar and is of a sweet taste. Diabetes was formerly thought to be a sudden discharge of liquids from the bladder such as if it were taken in by the mouth. The saccharine character of Diabetes was first noticed by Willis.

"Diabetes then is that form of urinary disease in which the urine is sensibly impregnated with saccharine matter and voided in an unusually large quantity being attended with great thirst voracious appetite and an extremely dry and harsh state of the skin. Diabetes usually comes on slowly and imperceptibly though sometimes suddenly. It is generally attended with disordered state of the digestive apparatus indicated by variable appetite acid eructations occasional nausea and vomiting.

The quantity of urine discharged in diabetes is enormous from 25 to 30 pints per day have been discharged for weeks in succession being more than double the weight of the whole ingesta. The urine is of a pale straw color sometimes approaching to green resembling a diluted mixture of honey and water. Its smell resembles that of milk or fresh animal froths. The inordinate secretion of urine has suddenly ceased and a distressing strangury supervened. This disease continues for weeks and even years. In some it is hereditary and sometimes occurs in a periodical manner. It rarely found in early life. Males are more subject than females.

Exciting Causes.

Those who indulge in the pleasures of the table, the free use of condiments and farinaceous food, protracted grief, despondency, anxiety, and nervousness, &c. &c. It frequently appears without any assignable cause, sometimes sympathetically, with pregnancy. symptoms.

Great thirst, voracious appetite, pulse little or not at all accelerated, dry harsh skin, and white coat sometimes clean and red tongue, emaciation, languor, debility, loss of weight and pain in the loins, costiveness

or variable state of the bowels. In the advanced stage the extremities become edematous, gums spongy, breath fetid, skin cold and the patient sinks in a state of semi-coma or drowsiness from which it is difficult to rouse him. It not unusually terminates in apoplexy.

It is said that in health there is always more or less urea secreted by the kidneys but in Diabetes there is rarely any appreciable quantity and often none at all and it is thought probable that the urea in Diabetes is converted into sugar by the perverted action of the kidneys and it would appear that as urea contains a large part nitrogen and sugar none that the diabetic blood is deficient in azote. The lungs are almost invariably affected in this disease and the vascularity of the kidneys is increased and they are often flabby soft and diseased.

Various opinions have been formed respecting the seat of this disease and there are as many modes of treating it as there are theories to support. Dr. Rollo regarded this disease as confined to the stomach while the kidneys, head, skin and other parts were only secondarily affected. That the blood was imperfectly formed and the morbid change of animal salts into sugar was the work of the stomach or its auxilliary organs. An Injection was

made to this that the blood did not contain sugar before it reached the kidneys. Later experiments however have detected sugar in the blood. Dr Willis thought that Diabetes was rather an immediate affection of the blood than it is to speak because melted down into a state of serosity hence the inordinate quantity of urine; the kidneys were at the same time relaxed and patulous to allow the untempered fluid to pass off with ease and rapidity.

Dr Latham believed the stomach and kidneys to be perfectly sound in their action and that the increased appetite was a natural sensation to supply the constant waste of the body contrary to the opinion of Dr Bello and he looks upon the more moderate appetite which usually takes place in a few days after the use of animal food as the surest sign of convalescence. Dr Latham thought the elements of sugar might exist in the blood and that sugar might be evolved by the natural secretory action of the kidneys without any fault of the organs themselves. Another and more ancient opinion that the seat of the disease was in the kidneys that they were supposed to be weakened, relaxed and very irritable.

To this irritability was ascribed their morbid activity and it was known that the serous parts of the blood passed

off without change.

Treatment. 1st. To invigorate the debilitated system. To give
firmness and coagulability to the blood. Dr. Willis used an
increasing and cooling diet regaining as is and season-
able hypnotics. Agglutinants were used as G. Haycraft. G.
Latic albumen of Eggs and astringents that are Common
lime water with or without anodynes. Sydenham allowed
his patients to eat food of easy ~~of easy~~ digestion real mutton
and as like and certain was all fruits and garden
stuff and at times drink Spanish wine

2nd. Rho's intention was to remove the animal salts.

The patient to abstain from all vegetable matter
using animal food only. Hepatized Ammonia was
employed as an auxiliary. Narcotics were used occasion-
ally and emetics were used to allay excitement of the
stomach and lessen the morbid thirst and voracity.

Dr. Latham agrees with Rho in the use of animal food
but having seen a deficiency of Phosphate some instead of
the Hepatized Ammonia prescribed Phosphoric Acid

Burning. The blood in many instances has an inflamma-
tory appearance. Dr. Hall first practiced it to any extent
and in some cases where it was apparently contra-
indicated. When there was a singular and feeble

pulse with cold extremities, great prostration of strength and the lower extremities cold and edematous and where the blood was dark and wholly devoid of tenacity with a crassamentum like pitch but on bleeding the blood was changed, the crassamentum became dense and firm and the patients recovered. In recent cases of a phlogistic character bleeding can often be produced with advantage. Local bleeding also by cupping or leeching the region of the stomach kidneys &c.

Narcotics. Opium has been frequently employed to diminish the inordinate secretion of urine and subdue the nervous system.

It increases the specific gravity of the urine

Dr Ferriar used it in combination with bark and wine &c. But regards Opium as the best remedy in the cure of this disease and thinks Fours powders the best preparation Dr Latham obtained much advantage from Carbonate Iron and Opium. Alum has been given in large doses. Expectant action of the skin by hard work warm clothing and large doses Ferriar.

Emetics, Tonics, Mineral acids, Blisters and a vast number of remedies have been used in this disease. The diet should be roasted or boiled beef, beef steak, mutton, lamb, game &c. Fat meats are most beneficial.

Drinks Rum whey weak Brandy and water Milk and water chicken tea.

(Bouchardat thinks the saccharine urine in Diabetes has some remarkable connection with the ingestion of feculent aliment as common bread &c and insists on the almost total abstinence from all such food. He uses a bread made with gluten with only one fifth fecula that quantity being necessary to form a light bread and of an agreeable taste. He says the acid secretion of the skin is interrupted and as a consequence of this suppression, the secretions of the mucous membrane and glands of the digestive organs are altered having become acid instead of alkaline. But he does not think that the superabundant acids in the digestive organs change the fecula into sugar, for he has ascertained that mineral or organic acids have no power in converting fecula into sugar at the temperature at which digestion is performed. but says we must bear in mind that when the organic acids exist in considerable quantity we simultaneously encounter that modification of albumen which acts in converting fecula into sugar as occurs in the ripening of fruits To restore the skin he employs woollen clothing in quantity sufficient

to keep up constant diaphoresis and internal employ-
ment of Ammonia and Opium.

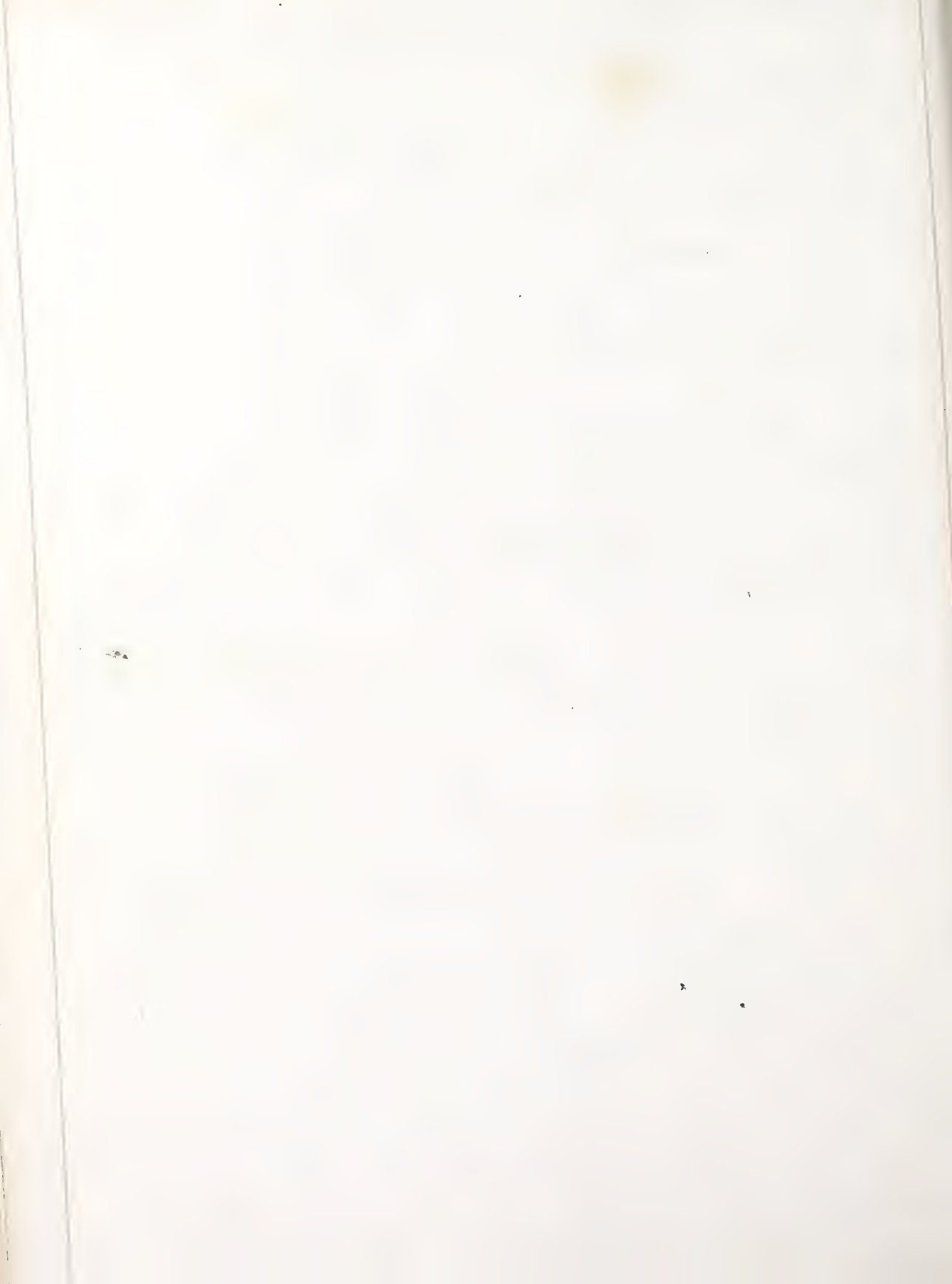
Dr George Budd in remarks on Diabetes says it was
at one time supposed that urea was entirely
wanting in diabetic urine but this is not correct

Macgregor Christison and Bouchardat have estab-
lished the fact that the quantity of urea is more
frequently above than below the healthy standard

He says sugar exists in the blood likewise D. Mart-
land having obtained pure crystals of sugar from
the blood of a diabetic patient. It is not easy to find
any considerable quantity of urea or urea in the blood
after death as they pass off by the kidneys with
remarkable rapidity. Another recent discovery by

D. Macgregor that sugar is formed in abundance
in the stomach by the process of digestion and
finds its way to the kidneys through the blood,
the kidneys frequently being perfectly healthy

Diabetes then consists in a loss of power to assim-
ilate the saccharine principles of the blood. Hence
the treatment is first to strengthen the digestion
and assimilative functions in the impairment
of which the disease consists. And second as long as



the depraved digestion continues to prevent as far as possible the formation of sugar in the stomach. The first of these objects is to be obtained by attention to the general health. The second must be accomplished by adherence to a moderate diet and the use of the gluten bread of Bouchardet. Besides the diet bleeding Emetics and Tonics.

The treatment in Diabetes should be continued a long time after the patient ~~convalesces~~ ^{and} himself if it is not he is in danger of a relapse.

Wm Edmond Booth

IV.

Dissertation
on
Gonorrhoea.

By
Joseph Rowland Brisco,
of Newtown, Connecticut,
Candidate for the Degree of Doctor in Medicine.

Gonorrhoea.-

This disease arises from the action of a miasmatic virus on a secretory surface, attended generally with more or less pain and inflammation.

The usual seat of the disease in the male, is the urethra; though it may attack the prepuce and glans penis; in the female it has its ^{seat} in the vagina. urethra labia hymenophae and glans.

Whenever it attacks the glans and parts adjacent, it develops itself about the root of that body, where the cuticle is of a very thin and delicate texture; it produces soreness and tenderness of the part, accompanied with a secretion of thin matter; here the disease sometimes develops itself in so mild a form as scarcely to be noticed.

The causes which are alleged to have produced Gonorrhoea, are several; the first and most common, and perhaps with very few exceptions, the only cause, has been, the direct contact of the healthy with the virus of the diseased organ.

Gonorrhoea is said to have been produced by sitting

in a necessary, the penis coming in contact with the virus deposited there, by some one affected with the disease, perhaps, in some few instances it may have been produced in that way, yet I think the instances very rare.

Persons affected with this disease, are generally ready to impute it to any other, than the true cause,

Some persons are much more severely affected by Gonorrhoea than others; while some from exposure, contract the disease, and have it, in its most virulent form - others, from equal exposure are affected very slightly, or, perhaps not at all. This is probably owing to some peculiarity of constitution - the system being more or less predisposed to the disease.

There are several diseases which resemble Gonorrhoea, and which are sometimes mistaken for it; as a natural secretion of the foreskin which irritates the parts and excites pain and swelling, a stricture by being excited sometimes keeps up a discharge resembling Gonorrhoea, and is often mistaken for it, by

those unacquainted with the nature of these two diseases, Leucorrhoea in the female is sometimes mistaken for this disease, and is a source of great uneasiness on the part of the patient and her friends and not unfrequently, leads to the most serious consequences. Now the surgeon being acquainted with these facts, may be the means of freeing innocence and virtue, from unfounded and unjust suspicion; and as Leucorrhoea will sometimes ~~produce~~ communicate symptoms to the male, very much like Gonorrhoea it may give rise to suspicions of an unpleasant character, which may be quieted by a proper explanation.

The symptoms usually attending Gonorrhoea, are the following— in the first place, the patient experiences a titillation, or itching sensation in the urethra, as of a drop of urine remaining in the passage; there is a peculiar scalding sensation while urinating, which soon leads the patient to examine the parts, when upon pressure, matter of a whitish color will be seen oozing out at the orifice of the urethra. On the following day this painful sensation and discharge will have increased, and the

matter changed to a yellowish color.

After a short time, the painful
Irritation in passing water becomes
Excessive, amounting to a sensation
of absolute scalding; - at this time
the discharge turns of a greenish color,
and, instead of being of a Creamy
consistence it is thin and watery;
under these circumstances also, there
is a painful sensation extending
along the whole length of the urina-
ry passage, and the penis is subje-
ct to frequent and painful Erections.

Gonorrhoea usually begins with
more or less pain and inflammation,
which after a little time abates or
subsides entirely,
In speaking of Gonorrhoea therefore, we
call the beginning, its inflammatory
stage; but it should be observed
the degree of pain and inflammation,
differs very much in different persons, while in
some it is so slight as scarcely to occasion any Complaint

at all - others suffer very severely. In Every Case however, after a little time, these symptoms subside whether anything is done or not. Then comes on what is called the second stage, which is simply an infectious discharge without much pain; this discharge varies in quantity in different persons and is very much increased by whatever may Excite, or irregularities of any kind. While this discharge continues it is supposed to be capable of communicating the disease by infection.

The remedies for Gonorrhoea, are internal, and external or local.

Of the internal, the Balsam Copaiva in most cases is the best; but there are others whose action is analagous to it, - and when from idiosyncrasy it cannot be used - may be substituted for it with advantage.

The External or local are cold applications to the part and astringent injections. Of the injections the Sulphate of Zinc is in most cases preferable to all others, though the Sulphate of Alumina and Potassa - Nitrate of Silver - Acetate -

- of Lead &c - have often been used with success. If taken as soon as the discharge commences, and before any redness is seen about the orifice or any pain felt in passing water, it is said to have been cut short and the patient cured simply by making a solution of Nitrate of Silver - Strength 2 grs to $\mathfrak{z}\text{ss}$ of distilled water and giving twelve injections of it at regular intervals during the first forty-eight hours. After this the injections may be discontinued, and the patient put upon full doses of Balsam Copaiva, or Cubebs, which may be gradually diminished for ten or fifteen days, when the patient will be entirely cured. Generally however, the Surgeon is not called until the disease is too far advanced to admit of this mode of treatment, when a different course must be pursued. Usually when the aid of the Surgeon is solicited there is more or less inflammation, with severe pain and heat in passing water.

In order to abate these symptoms, one or two active Cathartics may be given followed by the free use of nitre, Antimony, Mucilages, diluent drinks, cooling applications, and Balsam Copaiva; the patient in the mean time, should keep quiet and avoid all Stimulents, in short

The treatment during the inflammatory stage, should be strictly antiphlogistic. When the inflammatory symptoms have subsided, which will generally be the case under this treatment in two or three days, the injections may be commenced with, - continuing at the same time, though gradually diminishing, the Balsam Copaiva. Under this mode of treatment, all of the symptoms of Gonorrhoea will generally disappear, though it should be remembered it is much more tedious in some, than it is in others. Notwithstanding the discharge has entirely disappeared, the remedies should not be dispensed with at once; Either the Balsam, or the Injections should be continued for a few days, gradually diminishing the quantity.

Thus far I have only spoken of this disease as it ordinarily appears, and of the appropriate treatment; there are, however, other symptoms, which are only occasional, but which form the severest part of the disease, and call for immediate and peculiar remedies - they are Swelling of the fore skin, - Swelling of the Glands in the Groin, - Painful Erections, - Swelling of the testicle, and inflammation of the bladder.

Swelling of the fore skin is the effect of inflammation which a full state of habit, or irregularity may lead to. The skin which covers the glans penis, is of a very loose and cellular texture, so that when the inflammation runs high, these cells are filled with the colorless part of the blood. Sometimes the skin is very much swollen, and looks of a bluish white color, being somewhat transparent, and occasioning great alarm; indeed there is sometimes reason to be alarmed, for when the swelling is considerable, sometimes the skin cannot be pushed back over the glans penis, or if pushed back, cannot be brought forward again.

This swelling itself, is not so dangerous, as the consequences resulting from it; for if the skin cannot be pushed back, matter accumulates under it, becoming a source of irritation which it is difficult to remove; and the patient is consequently deprived in a great measure the benefit of ^{that} cleanliness which is very essential in the treatment of this disease.

On the other hand, if the skin cannot be brought forward, it produces danger by acting like a ligature drawn tightly around the penis, and thus preventing the return of blood so that it swells

prodigiously. Turns of a dark color and sometimes mortifies, and comes away; this however, can always be prevented by proper management.

Sometimes the inflammation and swelling is not very great, and the treatment required is very simple - a soft rag, frequently wetted with a solution of acetate of Lead - Brandy and water - or simply cold water^{or} applied to the part - with a dose or two of some purgative medicine, is all that will generally be required. When, however, the swelling is so great, that the skin cannot be pushed back over the Gland, in addition to this treatment, injections of warm water beneath the skin, should be used, to wash away as much as possible the irritating matter; this may be done by introducing the pipe of a Syringe between the skin and gland penis, and using ~~the~~ it in the ordinary way. When the prepuce cannot be brought forward without the aid of the Surgeon, the most prompt and efficient means should be employed. Generally by proper management, the Surgeon will be able to bring the prepuce forward with his fingers. After this has been effected the usual antiphlogistic treatment

will generally cure the patient. When, however, it is impossible to bring the prepuce forward by the fingers, the only resort is to an operation; to accomplish this an incision is to be made through the skin and cellular substance, simply dividing the edge of the prepuce which from being reflected, alone composes the stricture; then a director introduced beneath the stricture, and that divided by a bistoury will complete the operation.

Gonorrhoea is sometimes attended with tumors in the groin, termed sympathetic bubo; this is owing to more irritation - and not to the absorption of matter as is the case in venereal bubo. They seldom suppurate and the pain and inconvenience attending them compared with that of ^{symphilitic} ~~venereal~~ bubo, is very slight.

These swellings may be reduced by the repeated application of leeches, and by keeping up a continued evaporation from the parts, by means of a linen rag wet with the liquor plumbi acetatis dilutus. Sometimes poultices afford more relief than cold applications; in such cases they should of course be used.

Sometimes ~~when~~ the inflammation runs high, and extends to the substance of the penis, occasioning frequent

and painful erections. The penis being of a cellular texture, the effect of the inflammation, is to glue these cells together, which are broken up at the time of Erection by the rush of blood to the part, and the Corpora Cavemosa being much more distensible than the Corpus Spongiosum, a curvature takes place which is termed *Cordee*. This may be relieved by applying leeches to the parts - Exposing the penis to the steam of hot water - Camphorated fomentations and Emollient poultices - Giving at the same time, Opium and Camphor internally. When all of the inflammatory symptoms have subsided, the indication is to promote absorption of the of the Coagulating lymph; and for this purpose frictions of the Camphorated Mercurial ointment are perhaps preferable to anything else.

Swelling of the testicle is generally occasioned by a sudden suppression of the urethral discharge, by irregularities - Debauch - the use of too strong injections; consequently the first object of the Surgeon should be, to re-establish the discharge. This may generally be accomplished by warm poultices sufficiently large to cover the whole penis and testicle, or, by the introduction of a bougie into the urethra. Along with

this treatment, local, and sometimes general, blood-letting, may be employed; together with purgatives, while the patient is to be confined to the horizontal posture, and the testicle supported by a bag knut, or any thing else which will answer the same purpose. To alleviate the pain which is often excessive, Opium may be given.

In the progress of Gonorrhoea the inflammation sometimes extends to the bladder, occasioning an uneasy sensation which is referred to the perineum - penis and Glans penis. There is frequent desire to empty the organ - and the pain which is felt acutely before evacuation, is very much relieved afterwards. The urine is high colored and scanty, and in more cases the pain during its discharge is excruciating.

For the relief of this affection no remedies appear to be more effectual than the warm bath - Opium Glysters - and warm poultices, or fomentations to the perineum.

Gleet is a common consequence of a neglected or badly treated Gonorrhoea; it consists in a discharge from the urethra similar in appearance to the white of an egg, but by ^{-repeated} excitement.

a intolerance, it will completely change, becoming yellow and opaque. Whether or not this discharge is infectious, is a matter of some doubt. The cure consists in affecting a change in the action of the parts; and this may be attempted in three ways—Constitutionally, locally, and sympathetically. Among the constitutional remedies, are bark, Chalybeates, and sea bathing. Of those which act sympathetically, Balsam Copaiva, Turpentine, and Cantharides are perhaps the most efficacious.

The local remedies most to be relied on, are Sulphate of Zinc, Sulphate of Aluminum and Iodine, and nitrate of Silver. In all of these cases the diet should be low and the patient ~~avoid~~ kept quiet, and ^(of course) avoid all venereal Excitement.

Stricture is often imputed to the Effects of Gonorrhoea or its treatment; but this subject is of itself, sufficiently Extensive, to constitute a distinct dissertation,







V.

Dissertation
on
Iritis.

By
Linus Pierpont Brockitt,
of Lyme, Connecticut,
candidate for the degree of Doctor in Medicine.

Iritis.

Among the many and serious diseases to which the human eye is subject, few are more destructive to the sight, than that which ~~forms~~^{is} the subject of this dissertation.

It is about thirty five years since Iritis or, more correctly, Iriditis, was first recognized in Europe, as a distinct disease of the eye, and the diagnosis was not made in this country, between this, and other inflammations of the eye till about the year 1817.

Concerning its history, little is known. The ancients, who seem to have paid less attention to affections of the eye, than of most of the other organs of the body, were entirely ignorant of the nature of this disease, and had probably never distinguished^d from inflammations of the other tissues of the eye.

The disease has, unquestionably, for reasons which will appear when we come to speak of its causes, been far more prevalent since the latter part of the fifteenth century than



previous to that time; but although frequent cases of it must have occurred, it appears to have been regarded as a malignant conjunctivitis, or Sclerotitis, till the commencement of the present century).

Within the last forty years the attention of Sir Astley Cooper, and Messrs Travers, Saunders and Lawrence in England, Professors Beer and Scarpa on the Continent, and in our own country, Drs. ^{Hayes} Rogers, Wilkes, Pacht and Dix, as well as many others of less note, has been called to the subject, and a flood of light has been thrown upon it, which has rendered the diagnosis and successful treatment of the disease simple and easy.

In no one instance, perhaps, has the spirit of modern pathological research, and investigation, been crowned with more ample success; hundreds, who, had they been attacked by this disease in former days, would have been compelled to grope their way through life in darkness, now look upon the fair face of day with unclouded vision.

Dr. J. H. Rogers, Surgeon of the New York Hospital, and of the eye infirmary, remarked to the writer, in the Spring of 1842, that, while he was House-surgeon of the New York Hospital, some twenty seven years since, he frequently saw cases of Iritis, but as no one was able, at that time to recognize the disease, it was always treated as a severe Conjunctivitis, and the result was that the patient always lost his sight. "I can now recollect," he continued "five or six cases, ~~that~~ ^{which} went on to total blindness, ~~and~~ which our present knowledge of the nature of the disease, would have enabled us to save."

Forms of Iritis.

Iritis has been divided, from its duration, into Acute and Chronic; from its causes, into Syphilitic, Arthritic or Rheumatic, and Traumatic Iritis. Dr. Rigby, a distinguished obstetrician of London, has also noticed a variety of the disease, which occurs in what he calls "adynamic puerperal fever," and seems to be an effort on the part of nature to throw off the original disease. — He ~~mentions~~ speaks of several

1. Dr E. O. Hocken, an ophthalmic surgeon of London, in a paper in the London Lancet of Nov. 19 1842. on Strumous diseases of the eye, remarks, "that Strumous inflammation occasionally affects the Iris." I have never seen a case of Strumous Iritis, nor do I recollect having seen it mentioned by any other writer on ophthalmic diseases.

cases of it, as having occurred in his practice.

This may, perhaps, with propriety be denominated Purpural Iritis. I am not aware that it is mentioned by any other writer.*

Causes.

In a large majority of cases, Iritis is one of the secondary forms of Syphilis, and when Syphilis is not subdued in its local form, but becomes a Constitutional affection, Iritis occurs in, perhaps, one fifth of the cases.

The usual time for its appearance is about 7 or 8 months after the occurrence of the primary symptoms, although cases are said to have occurred in which the Syphilitic Virus had lain dormant for 18 months.

Iritis is also, sometimes, though rarely, a Gonorrheal affection.

Another cause of the disease is Rheumatism or Gout. This may take place by Metastasis, or by continuous progress. The former is perhaps the more frequent.

Another and somewhat frequent cause of the

* See Rigby's Midwifery, Am. Ed. page 456.

disease is wounds. - These may either be accidental, or the result of some operation upon the eye; thus, the operation for Cataract, and that for artificial pupil, are occasionally followed by Traumatic Iritis. Some cases have recently been reported in the N. Y. Lancet, which show that a blow over the eye, which has not divided any of the external tissues of the eye may produce laceration and inflammation of the Iris.

Sudden exposure to severe Cold, or over-exertion of the eye, from severe study, may produce it. Such cases, however, are rare.

It is more frequently sympathetically affected from inflammation of the other tissues of the eye.

The Chronic form, although it is asserted to have occurred primarily, usually supervenes upon the acute, whenever this has not been treated with sufficient promptness, or the proper course has been neglected.

Nature of the disease.

Iritis, when idiopathic, seems to be a simple inflammation of the peculiar tissue

8
of the Iris, without any specific taint; but, which, from the vascularity of that membrane, assumes a degree of virulence, greater than that of any other tissue of the ~~body~~ eye.

When it occurs as a form of secondary Syphilis, the taint of the Syphilitic virus in the blood, is probably as in the case of the Cutaneous Syphilitic ~~eruptions~~ affections, the predisposing cause, while the exciting one may be a slight Conjunctivitis ~~or~~ other affection of the eye, calling the vitiated blood to that organ and producing Congestion.

That the usual seat of this disease is in the Iris rather than any other of the tissues of the eye, is not, probably, that it possesses any peculiar affinity for the Syphilitic virus, but that, on account of its vascularity, it receives a greater quantity of the vitiated blood. The fact is certain, however, that Iritis is the only affection of the eye, whose Syphilitic origin is clearly made out.

Symptoms

These are of two kinds, viz; Local, or those affecting the eye and its appendages; and, General symptoms, or those affecting the whole system.

Local Symptoms.

1st The Iris is changed in color; if in its healthy state it was blue, it assumes a greenish cast; if originally black, its hue is converted into a dark red or brown.

2^d It is surrounded by a narrow, but in most cases well defined, whitish zone, usually termed the zonula iritica. In the milder cases, this circle is not complete, but extends around a segment of the Iris only; in severe cases it is usually entire.

3^d Around this whitish circle, we have another zone of a bright pink color, of from one to three lines in width, differing essentially from the scarlet redness of Conjunctivitis, and depending upon the injection of red blood into the minute vessels of the Sclerotica, which seem to form a zonular arrangement around the Cornea.

4th The Iris is extremely sluggish in its move-

ments, and when the eye is suddenly closed, or opened, the size of the pupil is but little changed.

5.th The pupil undergoes a remarkable change.

Early in the disease, it begins to contract, and in this contraction, the muscular fibres seem to act unequally, and render the form of the pupil irregular; as the disease progresses, it continues to contract, until the pupillary opening is entirely closed, or at the utmost, presents ^{but} a very minute aperture.

6.th The cornea presents a muddy & opaque appearance, like ground glass. The natural brilliancy of the eye is destroyed, and it is dull and glazed, like the eye of a corpse.

This opacity of the cornea, in a large majority of cases, appears to consist in a turbid state of the aqueous humor, and not in any deposit of pus, or coagulable lymph on the cornea. This point was fully settled by some experiments made, I believe, in Germany, a few years since the cornea when presenting this appearance, was punctured, and the aqueous humor discharged was of a milky appearance. The cornea of course

immediately collapsed; but, when a new secretion of the aqueous humor took place, which, owing to the congested state of the eye, was much more rapid than usual, the cornea was ^{clear and} transparent as in health.

In some instances, however, when the disease has continued for several days, a deposition of coagulable lymph takes place, usually between the lamina of the cornea, but sometimes, also in the substance of the iris. In a few cases I have observed staphylomas, produced, apparently, by the deposition of lymph in the posterior chamber of the eye; in these cases the eye presented the appearance of an abscess in the eye ball; and the inexperienced practitioner, looking upon the previous symptoms of pain and heat in the eye, as marks of inflammation tending to suppuration, and observing this deposition, would be ~~strongly~~ disposed to puncture the eye, to discharge the purulent matter. To do this, would be to destroy the eye at once, while, the ~~xxx~~ recovery of vision would be complete.

if the ordinary means of subduing inflammation are resorted to, and the eye let alone. Indeed, it is never necessary to puncture the eye in Iritis, for pus rarely or never forms in the eye, in this disease, and the Coagulable lymph, so abundantly deposited in the various tissues of the eye, is, after a time absorbed.

7th The tunica albuginea, at a distance from the cornea, retains its pristine whiteness and no red vessels traverse it, as in Conjunctivitis.

8th There is usually, though not ^{invariably,} ~~always~~, some intolerance of light, but this, when present, is easily distinguished from the utter dread and aversion to light, which is manifested in sthenous ophthalmia, and ⁱⁿ Conjunctivitis generally.

9th During the height of the disease, the power of vision is totally or nearly ^{lost} ~~impaired~~ in the affected eye.

10th It is said, (although this symptom has never come under my notice,) that there is, occasionally, Condyloma of the pupil.

11th There is, usually, intense pain in the

eye ball, & over the eyebrows, for about three hours each day. This pain usually comes on toward evening, and in quite a number of cases, in which the writer made inquiries on the subject, he found the time of the commencement of the pain to be about 4 o'clock P. M. and its cessation about 7 P. M.

General Symptoms.

There is generally, more or less Constitutional disturbance, during the progress of this disease. The pulse is frequently accelerated, and there is some thirst and heat of skin. The febrile symptoms usually come on at the same time with the pain over the eyebrows.

In cases where the disease goes on to destruction of the eye, the Constitutional disturbance is sometimes so severe, as to confine the patient to his room and bed.

Occasionally however we meet with Cases of considerable severity, in which, from the commencement to the close of the disease, the ^{functional} harmony of the system has



not been disturbed.

Complications.

The inflammation of the Iris, if unchecked, frequently extends to other tissues of the eye, and we have it complicated with Scleritis, Corneitis, Conjunctivitis &c.

These complications may exist from the very commencement of the disease. They may be detected by the increased vascularity of the Cornea or the Conjunctiva, and by the copious lachrymal discharge, accompanied by deep seated pain in the eye, extending to the brow, and head. The tunica albuginea in these cases, displays a more diffused vascularity, and of a more vivid scarlet hue, than in ordinary cases of Iritis. The existence of the white zone around the Iris, in connection with other symptoms, will assure us that inflammation of that tissue is present.

In syphilitic Iritis, some of the other forms of secondary Syphilis are usually present. Dr. J. N. Rodgers deems the evidence of the syphilitic origin of the disease conclusive when it is



accompanied by a copper-colored eruption on the ^{fore}head or breast.

In Gonorrheal Iritis, the discharge usually continues during the inflammation of the Iris.

Rheumatic Iritis is usually co-existent with Rheumatism in other parts of the body, although it sometimes appears to be the result of metastasis. The same may be said of Iritis depending upon Gout.

Diagnosis.

Iritis is, of course, liable to be confounded with no diseases except those of the eye. From these, the diagnosis though somewhat obscure to the unpractised eye, is not difficult to one who is accustomed to accurate observation.

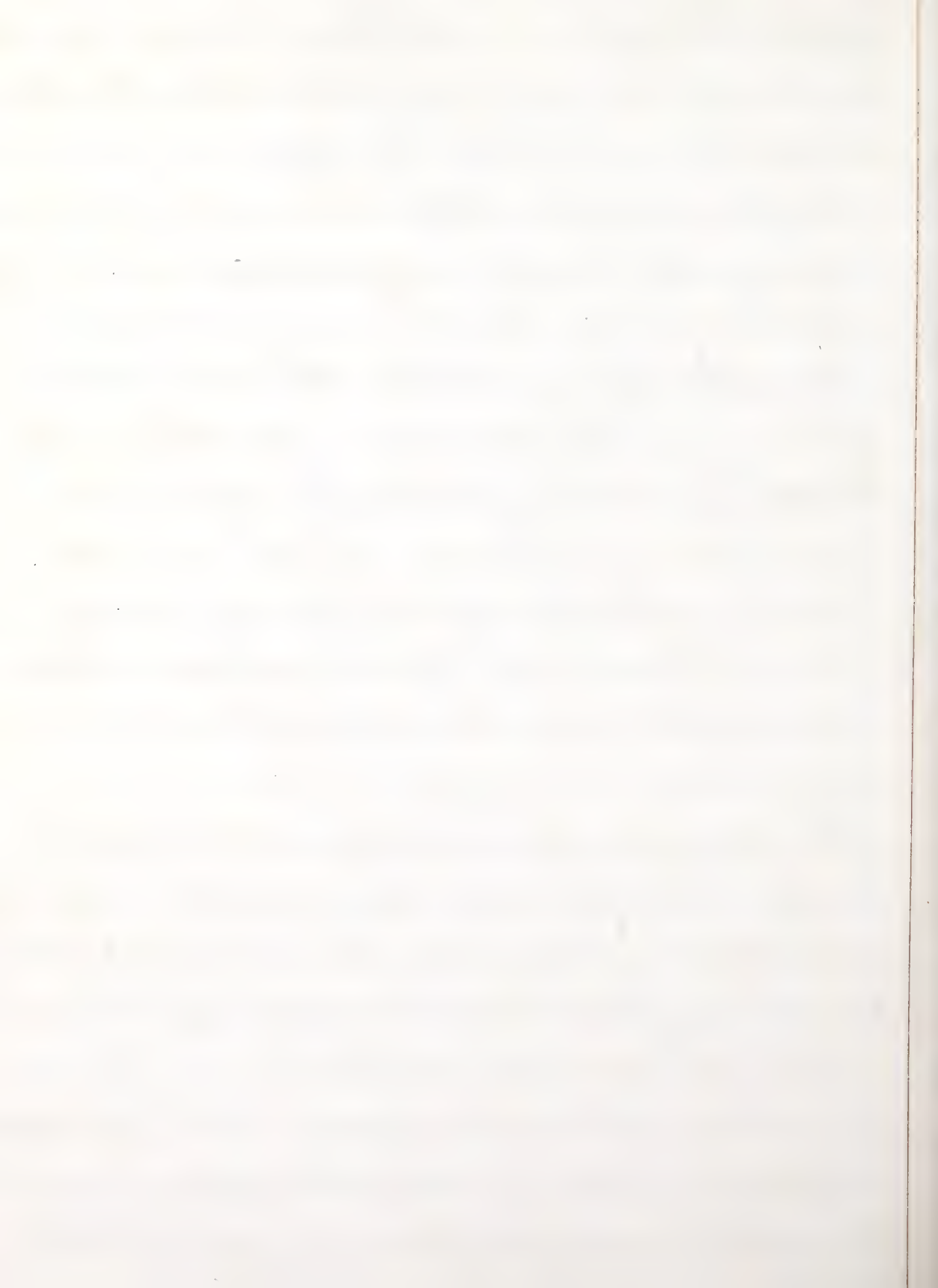
Iritis is distinguished from Conjunctivitis, by the different color and arrangement of the injected superficial vessels of the eye.

In Iritis these are of a pink color, ^{and} form a zone around the cornea, while the portions of the tunica albuginea remote from the cornea, retain their usually pearly whiteness.

Substitute " The vascular state of the cornea in
Corneitis will prevent us from distinguishing
the color of the Iris, but "

In Conjunctivitis, on the contrary, these
vessels are of a scarlet hue, tortuous in their
course, & covering the whole conjunctival
membrane, although they are fewer in
number, immediately around the Cornea,
than in the portions more remote from it.
Sackrumation, which is very profuse in
Conjunctivitis, is either entirely absent,
or very limited in quantity in Iritis.
If we add ~~adding~~ to these marks, the appearance of
the Iris and Cornea, the change in the
color of the Iris, and the intermitting
pain peculiar to Iritis, there will be
no difficulty in making out a correct
diagnosis.

The diagnosis from Corneitis is equally
easy. (The pathognomonic color of the Iris
cannot, it is true, be seen distinctly here,)
~~but~~ the irregular and contracted pupil, the
white zone around the Iris, and the pink
one around the cornea, together with the deep
seated pain in the eye ball, will inform us that
the malady, we have to treat, is less superficial than



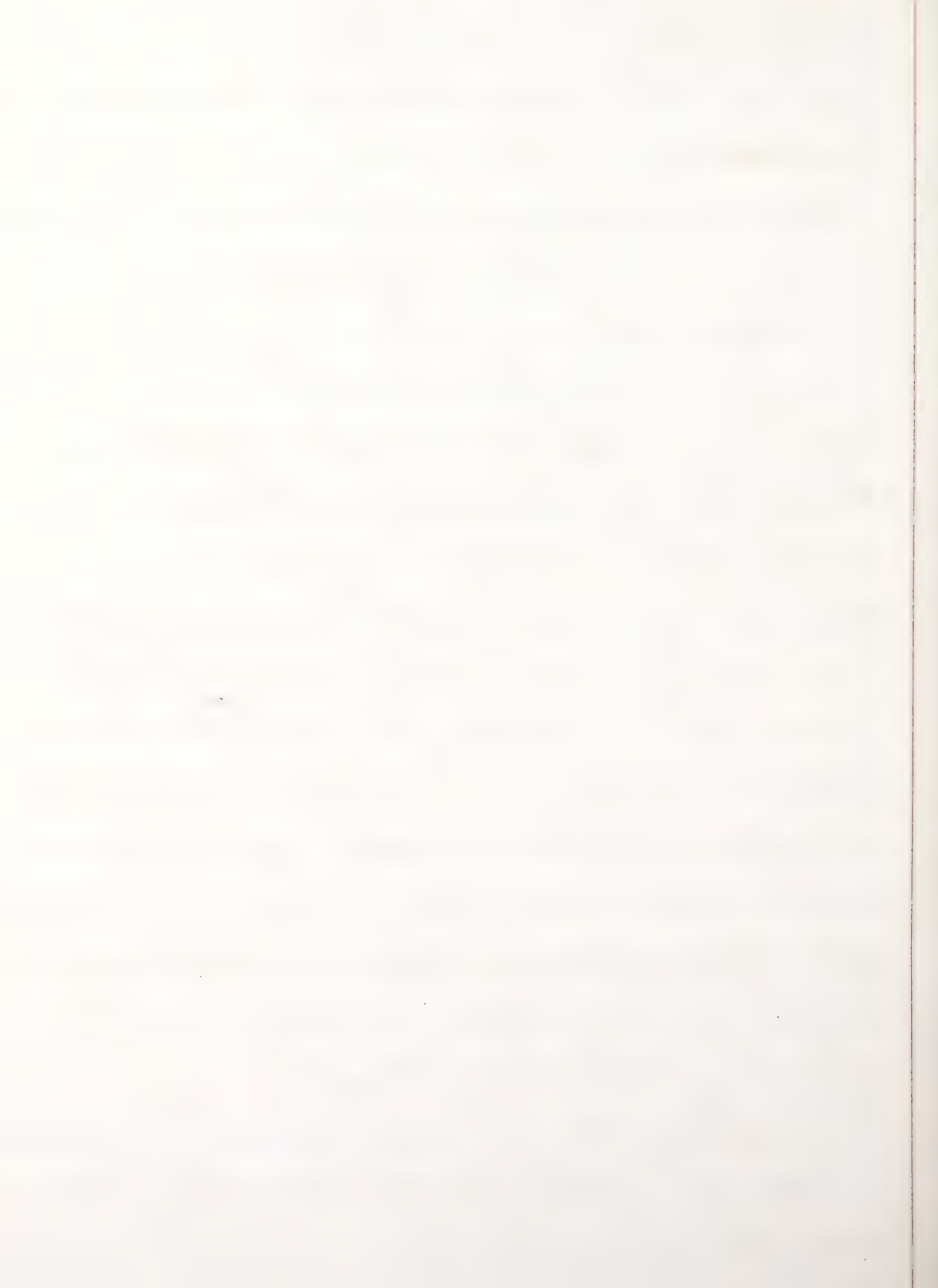
the cornea. The inconsiderable amount of lachrymation will also serve as a diagnostic; Conjunctivitis being accompanied by copious lachrymal secretion.

The diagnosis between Scleritis and Iritis, is somewhat more difficult; but, fortunately, Scleritis is very rare.

The pink zone around the cornea is very similar in the two diseases; but the zonula Prick, the change in the color of the iris, the deep-seated intermittent pain, and the peculiar appearance of the cornea, unless the inflammation has extended to that tissue, will usually be sufficiently strong diagnostics, to enable us to pronounce with certainty, as to the nature of the disease.

When the disease is of Syphilitic origin its diagnosis may be easily made out, as Primary Scleritis is rarely or never a form of Secondary Syphilis.

The above are, I believe, the only affections of the eye, at all resembling Iritis, or liable to be mistaken for it.



Prognosis.

If called before the inflammation has extended to the Cornea, or other tissues of the eye, or any apparent lesion, or structural alteration has taken place, the Prognosis, if a judicious course is pursued, is favorable.

The eye may, in such cases, generally, be saved with ^{the} vision perfect, or but slightly impaired. But if there is considerable Staphyloma - if the pupil is fully closed - the pain severe - and the ball of the eye, upon gentle pressure with the finger, communicates a sensation of a contained liquid - the prognosis is unfavorable. Nothing but the most judicious and vigorous treatment, will save even imperfect vision, to the unfortunate patient.

The Acute form usually destroys the eye in from 4 to 7 days if not arrested. The Chronic form is much slower in its progress.

Treatment.

The treatment of this disease seems to be well settled. Few diseases yield with greater certainty to appropriate remedies, when



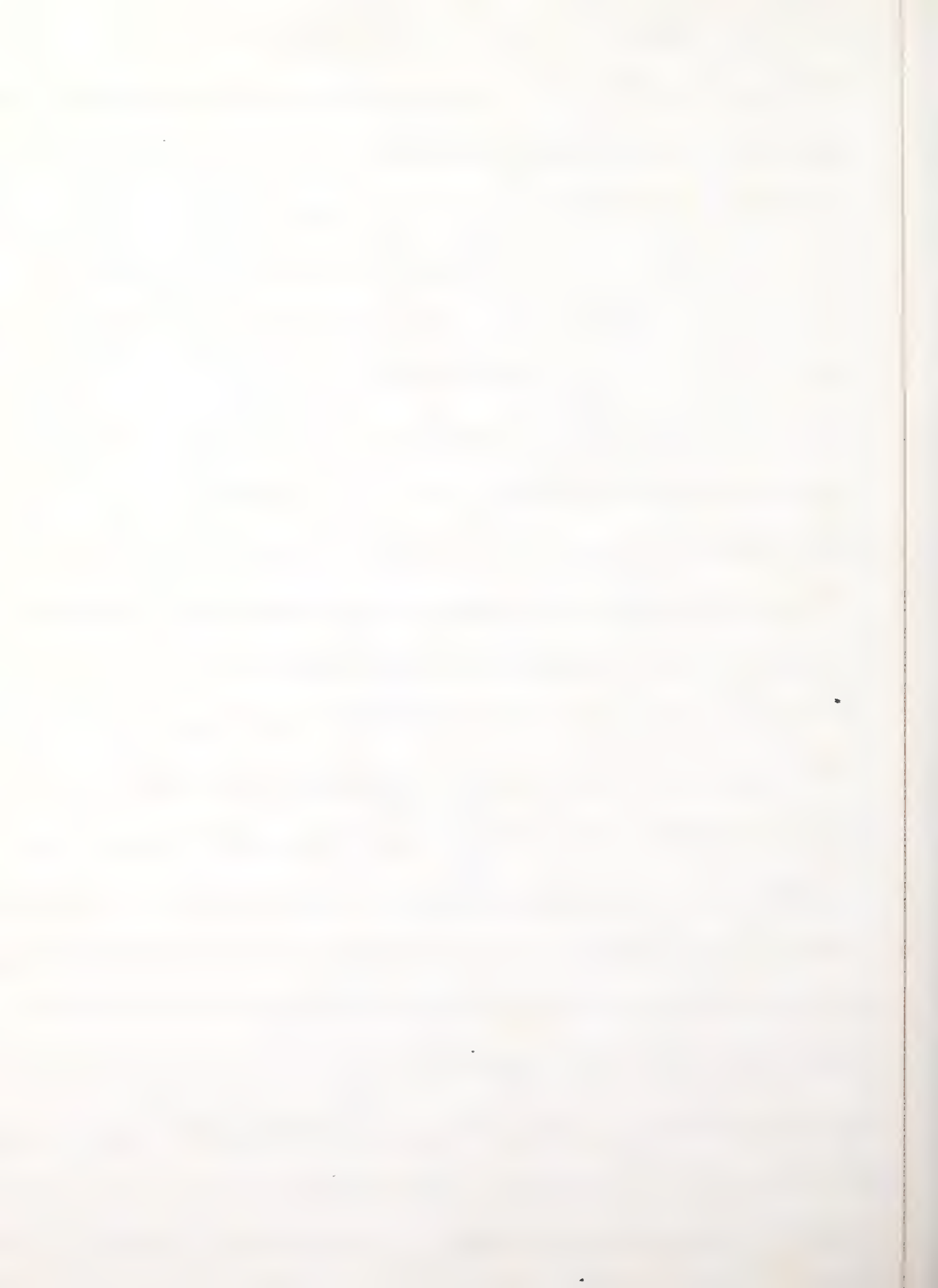
seasonably & skilfully applied.

In robust persons, it is necessary to promise general bleeding, and an active anti-phlogistic course; but, as a majority of the cases of this disease, which are met with in practice, occur in persons of irregular habits, who have enfeebled their health, and exhausted their strength, by their excesses, general blood-letting will rarely be required.

In such cases great benefit will be found to result from the application of cups and leeches to the temples.

Drs. Rogers and Wilkes, surgeons of the N. Y. Eye infirmary, informed the writer, that, although they were in the habit of treating between two and three hundred cases of Iritis, annually, in that institution, they had never yet met with a single case, in which they deemed general bloodletting necessary. Such cases may occur, however, in private practice.

After depletion, either general or local, the alimentary canal should be thoroughly



20
evacuated ~~in~~ by the administration of an
emetic and Cathartic. The formula of
the N. Y. Eye Infirmary for this purpose
is the following;

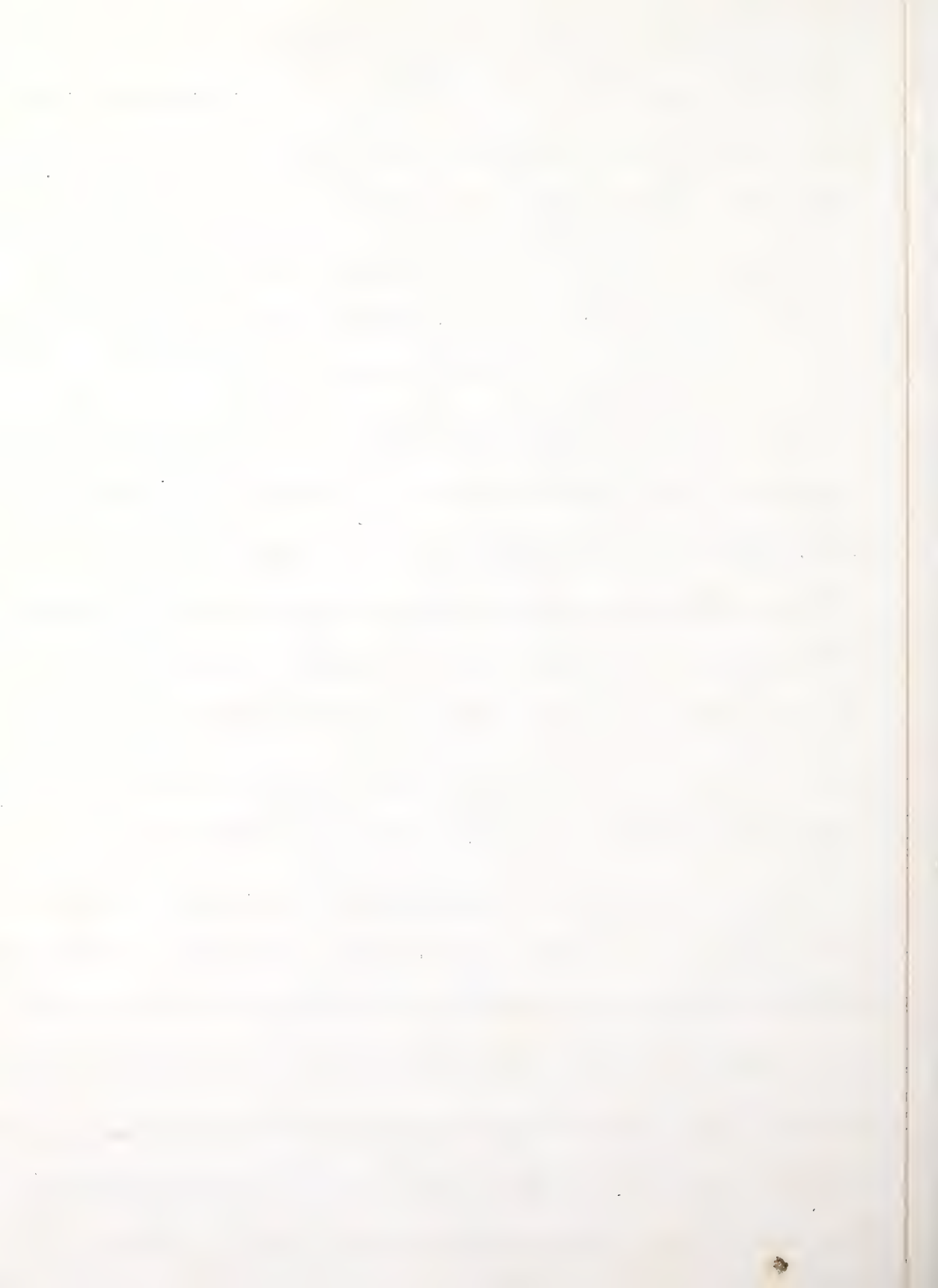
R. Calomel. 3℥.
Pulv. Antimonialis 3j
Opiv. gr. iij

M. et divide in chartulas ^{perque.}

xij unus datur unus horae quartae ^{perque.} unius

The particular Cathartic or emetic used in
these cases, is, however a matter of little
consequence, provided the stomach and
bowels are thoroughly evacuated.

The diet must, from the commencement
of the disease, be carefully restricted - no
meat, or ~~stima~~ Condiments, no stim-
ulating, or indigestible food, and no
stimulating drinks must be allowed,
on any plea whatever - and all excite-
ment, either physical, or mental, must be
studiously avoided. Gruel, milk porridge,
musk and melops, and other farinaceous
articles may be allowed. The drink should be ^{water.} pure,



The next step, in cases of Syphilitic Iritis, is the administration of mercurials till incipient ptyalism is produced.

I say incipient ptyalism, because, although not partaking in any degree of the popular prejudice against the use of the various preparations of mercury, I cannot but regard ptyalism as one of the most serious evils to which we can subject a patient. The loathsome odor it gives to the breath; the affections of the teeth; the liability to Rheumatic and Pseudo-syphilitic affections; the susceptibility to cold; and the impossibility of using so important a remedy as mercury, without danger of a recurrence of the salivation, are all so many strong reasons why we should hesitate, before resolving to produce full and copious ptyalism, unless in those cases, in which the life of the patient depends upon the production of the Constitutional effect of the remedy.

But to return to the subject. The system should be kept under the influence of mercurials, till

every symptom of the disease has passed away; and it is wonderful how immediately the disease begins to wane and decrease, upon the first indication that the system is mercurialized. The eye that yesterday presented an opaque, dull and death-like appearance, is to day brighter, the cornea more transparent, and the pink zone, which surrounded it, is fading away like the hues of the rainbow, when the storm has passed.

The preparation of mercury used, is a matter of comparatively little importance. In acute cases perhaps there is no better form than the blue mass, combined with a little opium, to prevent it from acting on the bowels. In severe cases, it is frequently necessary to hasten the Constitutional effect of the remedy by the use of the Unguentum Hydrargyri. This may be rubbed into the glands of the neck, axilla, or groin.

It now and then happens that we find a case of Syphilitic Iritis occurring in a person, who has already been freely salivated for Syphilis,



or in whom the scrofulous or cachectic diathesis prevails in so marked a degree, as to preclude the use of mercurials. In these cases we have a valuable substitute in the Iodide of Potassium.*

The following formula is used generally in these cases by the Surgeons of the N. Y. Eye Infirmary:

R Potassii Iodidi ℥j
Sarzæ Syrupi ℥ij M.

S. Dose, one ounce every four or six hours.

The Iodide may also be given in the form of Pills if preferred; or in some cases the Biniodide of Mercury, or the Iodo-Hydrargyrate of Potassium, may be used with advantage.

The Iodide of Potassium usually produces slight ptyalism; The same is true with the other preparations of Iodine, to which I have referred.

The Extract or Tinct. of Stramonium or of Belladonna should be used to dilate the Pupil, and prevent its closure. The Stramonium is preferred in this country, from the fact that its preparations are more certain than those of an imported plant.

The extract is the preparation used in the N. Y. Eye Infirmary in the form of ointment ℥j to ℥j of Lard. See a case of this kind reported in the N. Y. Lancet for Aug 27. 1842 pp. 139-40.

It should be rubbed upon the forehead, immediately over the eyebrows.

When the pain over the eyebrows, and in the globe of the eye is very severe, the application of mercurial ointment to the brow is frequently followed by almost immediate relief.

Blisters should not be applied in the earlier stages of the disease, as they only add to the irritation and inflammation of the eye. At a later period they may be applied to the nape of the neck, or behind the ears, with benefit.

The only articles, except pure river or rain water, which are at all beneficial as Collyria, are an infusion of Opium $\mathfrak{zj}^{\text{ss}}$ or \mathfrak{zj} to the \mathcal{Oj} of water, or a very weak infusion of Tobacco- \mathfrak{zss} to \mathfrak{zj} & \mathcal{Oj} of water. These may be used five or six times a day.

In Rheumatic, or Gouty Eritis, the free use of mercurials, is not attended with such marked benefit, as in the syphilitic form.

General, and local depletion are usually requisite, and may be followed by a moderate dose of some of the preparations of mer-

* The following elegant formula for the administration of this somewhat nauseous remedy was copied, I believe, from *Medici's Library of Practical ~~Library~~ Medicine*;

R. Ol. Turbinto.	℥j.
Vitel. ovi.	un.
Syrupi. Aurant.	℥ij.
Emulsionis Amygdal.	℥iv.
Al. Capiae	gtt. j. iij.
Tinct. Lavand. Comp.	℥iv.

M.

S. Dose two teaspoonsful three or four times a day.

2
cure. To these, should succeed the usual remedies for Rheumatism affecting other organs.

Among these, the Vinum Colchici, the Tinct. Actaeae Racemosae, ~~the~~ Tinct. Sanguinariae, and the Turbenthinates, will be found most useful.

The last seem to be peculiarly adapted to this form of the disease. The oil of Turpentine is, perhaps, the best of its class for this purpose. The taste may be disguised by the addition of aromatics.*

Traumatic Iritis more frequently goes on to the destruction of the eye, than the other forms.

It, in examining a case of Iritic inflammation, the result of an injury, we find the globe of the eye soft, and giving a sensation of a contained liquid under the finger, we may usually consider the case as one beyond the influence of the healing art. Occasionally, however, even under these aggravated symptoms, vision more or less perfect may be preserved. But if promptly and judiciously treated, this does not seem to be more obstinate than the other forms of the disease.

* See two cases of Traumatic Iritis, reported
by Middleton Goldsmith M.D. in the
N. Y. Lancet of Aug. 20, 1881.

The course to be pursued is similar to that directed for Syphilitic Iritis, except that the action of mercurials is not requisite, for so long a period, as in that form of the disease.*

Of the treatment of Puerperal Iritis, I am unprepared to speak from personal observation. Dr Rigby says, that, although Iridyalism was induced in every case that came under his notice, yet five out of six lost their eyes.

The treatment of Chronic Iritis, does not differ essentially from that of the Acute form. The mercurial course may be mild, and there is no need of hastening the constitutional effect of the remedy. In persons of sthenic habit, the Iodide of Potassium will be found serviceable.

In these Chronic cases, we derive great benefit from the judicious administration of the Peruvian bark. If the persistence of the disease appears to be owing to a want of tone in the system generally, the use of some of the Tonic

bitter will be of service.

It not unfrequently happens that Iritis, although so much subdued as not to effect any lesion of the tissues of the eye, produces closure of the pupil, and thus vision is lost.

These cases after the subsidence of the inflammation, offer some of the best subjects for the operation for artificial pupil; and by this operation, sight may be restored to many of those who have lost their vision through the error or inattention of their medical attendants.

Such then is the History of Iritis; such its causes, symptoms, diagnosis, and treatment. I could wish they had been detailed by an abler pen; but can only offer in apology for the imperfection of this attempt, that it was drawn up by an unpracticed hand, amid the onerous duties of a course of lectures, without suitable books of reference, and principally from brief notes of cases, which had fallen under my own observation. As such, I submit it.

New Haven, Dec. 24. 1842.

Sirius Pierpont Brockett
of Lyme, Conn.

VL.

Dissertation
on
The Pulse.

By
W^m Augustus Bronson, B.A.
of New Haven, Connecticut.
Candidate for the Degree of Doctor in Medicine.

The Pulse -

It is not intended in the present dissertation to enter upon any examination of the various theories & speculations which have been held in regard to pulsation, whether it is due to the action of the action of the heart alone, or to the combined action of the heart & arteries. Much has been written in regard to this, & many investigations have been made which are both interesting, but are foreign to our present purpose.

Neither do I consider it of any very great practical importance that this point should be perfectly understood. The indications afforded by the pulse in either case will be the same. If there is an Extensive condition of the System, the Arteries as well as the heart will participate in it, & the result is, in every case, so that whether the circulation is due to the operation of one or two forces, the result is the same. If it were true however that the two acted in a degree independently of each other, & at different times the principle office of the heart being to evacuate the contents of its own cavities, & the continuation of the function being



performed by the Arteries the case would be different. But it is not so. The heart is undoubtedly the great moving power of the blood in the arteries, yet from the constitution of the arterial coats they would seem eminently capable of affording the assistance now supposed, & the heart again equally well able to dispense with their assistance. 'Tis well known that muscular fibre of only a few inches in extent, when endued with the vital principle is capable of exerting an immense power, or power far greater than would be necessary to propel the blood through every part of the system. The action of the Sphincter, of the Cardiacum & Solar muscles, & the assistance of muscular fibre in the reduction of dislocations are common examples of this. Pulsation then may be reasonably explained upon either of the above mentioned suppositions.

There is no function of the Animal System of more importance than the Sanguiferous, & no part of diagnosis more important than the right understanding of the nature & character of the pulse as it is the index to the ascertainment of the State or condition of this function. When we speak of the pulse, we include all these circumstances, relation to the State of the heart & Arteries or their contents which can be perceived by the Touch. The State of the pulse may be considered as generally indicating, in the first place the State or condition of the Sanguiferous function, & next that of the Chyliferous viscera.



The action of the pulse may be divided into Systole & Diastole. Diastole is occasioned by the propulsion of a mass of blood through the artery, distending the artery. Systole is the contraction of the coats of the artery from elasticity. Many of the old Medical writers though ignorant of the true cause of the pulse, paid much attention to its indications, & formed deductions from it of no small value in their practice. Rhasarous is said to have been the first who investigated & brought into notice the Pulse in the diagnosis of disease. Galen especially paid much attention to it & has left many essays on the subject. Galen in current has distinguished the different varieties of the pulse to a more refined degree than is at the present time considered reasonable. The opinion of Galen in regard to the indications afforded by the pulse are worthy to be mentioned as showing the judiciousness of his views though founded upon a false principle. He says there is a specific faculty inherent in the heart & arteries which he calls pulsation by which the alternate contraction & dilatation is produced, & as the pulse is an effect resulting from the action of the vital faculties, it affords us one of the most correct indications by which to judge of the strength & weakness of the vital powers in general, & of the consequent tendency to life or death. Sir Parry at a much later period though well acquainted with the nature of the pulse, uses language not very unlike the preceding. He says, "The larger Arteries than



is no sensible dilatation or contraction. Hence the pulse cannot depend on this alternation. The chief cause of the pulse is a strong & permanent impulse of distension from the systole of the left ventricle given by the blood as it passes through any portion of an artery contracts within its vertical dimensions.

Almost the entire vocabulary of descriptive adjectives at our time or another, has been exhausted in designating the different varieties of the pulse. Many of these it hardly needs to say are idle & unmeaning, & very many more are entirely unintelligible to most persons. But it happens as this as in every other matter of experience & observation, that we tried & devoted attention will acquire a far greater amount of knowledge than our laziness & inattention. Now then this, there is a wide difference in different persons in respect to that turn of mind which will lead some to notice what to others may seem trivial & unimportant. This may in some degree account for the different estimates as given of the value of the pulse in various writers. There is undoubtedly a great difference between them. For we do not like Galen, & many recent authors particularly the French assign a distinct pulse to the liver, bladder, stomach of every organ & tissue of the body, in other words, divide it up into "infinitesimal doses," as I should wish to hear Dr. Hahnemann say. Galen says every thing but its frequency is frequency.

The conditions which are most prominent & important
in the State of the pulse are -

1. Frequency, & Infrequency.
2. Quickness, & Slowness.
3. Strength, & Weakness.
4. Fullness, & Emptiness.
5. Tenseness or Hardness, & Softness.
6. Regularity & Irregularity.

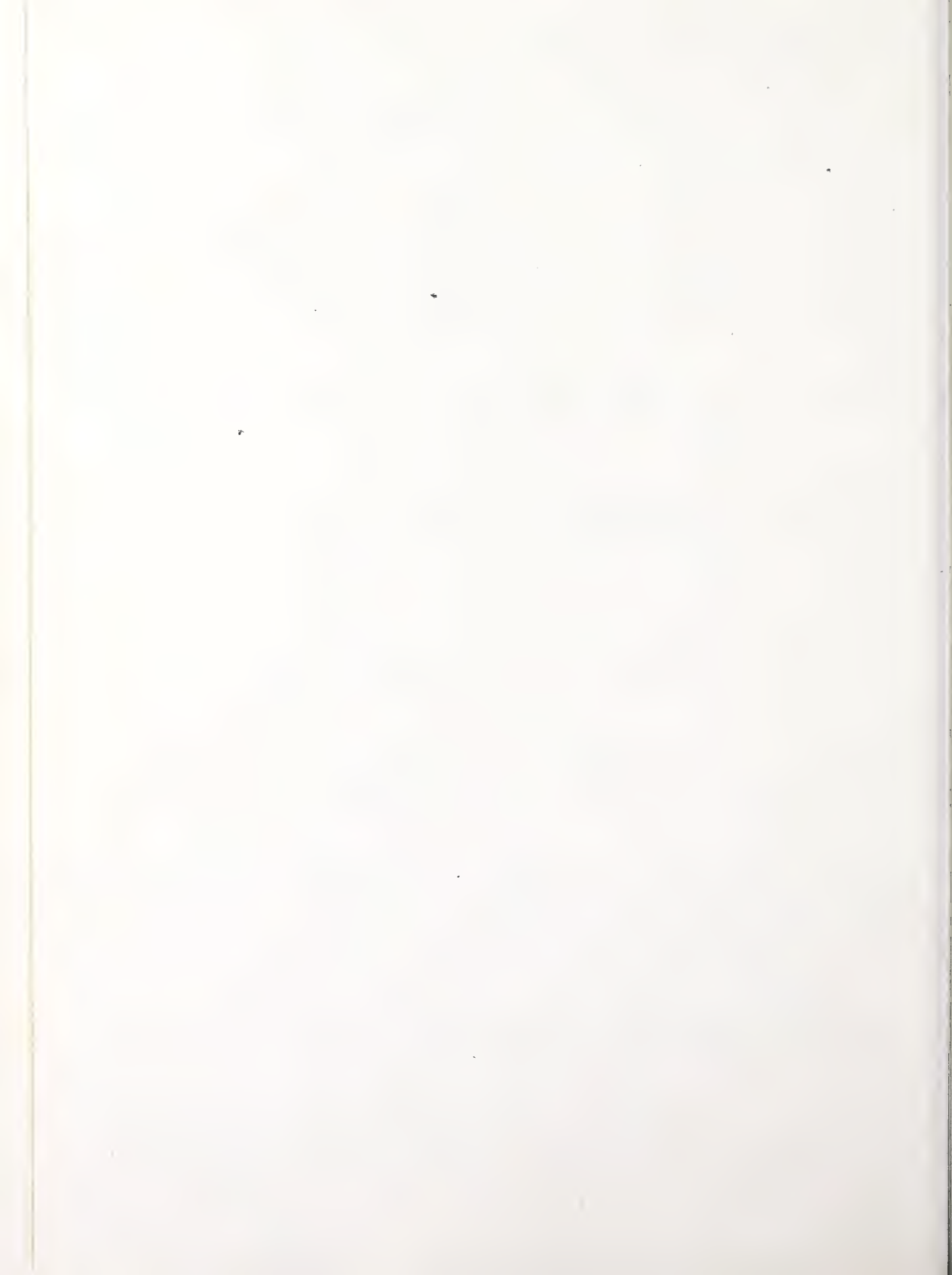
1. Frequent pulse. This pulse is said to be frequent which has a great number of beats in a minute or any given time. It is also sometimes called a high pulse, & the action of the heart & arteries is said to be increased. But a frequent pulse indicates any thing, than true Ectasy. The infrequent pulse is the converse of this, viz. the number of beats fall below the healthy average.

2. Quick pulse. The pulse is said to be quick when each Diastole or Dilatation occupies but a short time in comparison with the Systole or contraction, whereas many better number of beats in a given time, & vice versa, a slow pulse is one in which the systole and Diastole are more nearly proportional to each other. The Quick & the Frequent pulse are very often confounded with each other & the terms used synonymously. Very many object to what they call this convenience in the use of words. But "words" says Dean - will, "say things" & Dean will not be doubtfully right. Frequency & Quickness are



two entirely different conditions of the pulse - The terms are peculiarly happy in expressing this difference & should therefore by no means be confounded. Frequency & Quickness very often exist together & so also do Quickness & Infrequency. In such cases it is the most difficult to determine the frequency without the use of a time piece, & it is better in all cases, but especially in this, that practitioners should count the pulse. A great many are acquainted for judging of the frequency or number of beats in a minute merely by applying the finger, but this should not be relied upon by a physician who would practice accurately & thoroughly. Especially in a quick pulse is one who does not count liable to be mistaken.

3. Strong pulse. This pulse is characterized by fullness & tension, the beat giving great resistance to the finger. The artery feels like a iron whip cord & cannot be obliterated by any ordinary pressure. A Strong pulse is never frequent. The maximum number of beats is said never to exceed 110. or 115. in a minute. This pulse is peculiarly characteristic of an Entoric Diathesis & by some is thought the only pulse of Entory. - A Weak pulse is one in which the artery readily yields under the finger & the beat by slight pressure can be entirely obliterated. No hands may be considered in many of the varieties of the pulse, or in all of them except the Strong. It is the peculiar pulse of Uterus.



4. The pulse is said to be Full when a large volume of blood is propelled along the artery at one time. This pulse is liable to be confounded with a Strong one, & fullness to a greater or less extent is seen not to a strong pulse but they may occasionally exist together. By the full pulse readily yielding under pressure. A Small pulse is that condition of the artery which admits but a small quantity of blood at one time. The Small pulse is also frequently found coincident with several of the other varieties, & it may arise from an irritative condition of the coats of the artery.

5. Tense or Hard pulse. This pulse is said to be Tense or Hard when it is Small & wiry, giving to the finger the sensation of a small & tense cord, & it is therefore sometimes called the Corded pulse. This pulse may be mistaken for a Strong one. It has more or less, the firmness of resistance of the Strong pulse, but lacks its fullness. A Small & Tense pulse, for some time past, is considered & Tense pulse fortuitously Strong, indicative directly of opposite conditions of the system. The Soft pulse is probably made up of the Small & Hard pulse, but it is very often Small & Hard in its form, & the artery yields readily under the finger, giving no impression of resistance.

6. Regular pulse. The pulse is said to be Regular when it is uniform in Frequency, Quickness, Fullness, Strength, & Tension or Hardness. —



The above varieties include the most important distinctions to be made, but there are several other terms also which it may be proper to mention. Of these there is what is called the Intermitting pulse, characterised by the omission of 2 beat usually every third or fourth one. It is as remarked & called of Dr. Himmer that "as pulse, infrequent not only as respects the force of the beat, but also as respects the interval, & at the same time Intermittent as denoting a disease of the heart, & as occurring in no other case." Evident however, does not mention this as an important Symptom in most of the cases which he relates. Opposition of the Organs. When however it is accompanied with palpitation, difficulty of breathing, lividity of the countenance, &c, it may be an important sign of the disease. Dr. Heberden considered it not worth regarding in any illness unless joined with other bad signs of more moment.

The pulse is termed Excursus or Tumid when under slight pressure it is felt to be full & elastic, but under stronger pressure it entirely disappears. —

It is termed Fluctuating or Oscillating when it rises & falls like the waves of the Sea. — This pulse is also termed Crepidus or Pericardicus. —

The Intermitting pulse is when the artery seems to be full, but the contractions are made with apparent difficulty. "In" notes "morsus" is greater than the "bis morsus". This pulse is also called



the Oppressed, or the Depressed pulse, & is frequently found to result from imperfect inspiration, producing torpor of the heart & arteries, thus, & the influence of unarterialized blood. In many cases when the pulse is of this character if a vein is opened, the blood will at first run slowly & of almost a perry consistency & color, but as the circulation becomes relieved, & the process of aeration is better performed, the blood assumes a florid appearance & runs freely. When this state of the pulse follows we may be sure that the bleeding was indicated & appropriate; but if the pulse does not rise during the process, nor the color of the blood change we may be as sure that the bleeding was inappropriate.

Shattered pulse is when the pulse feels like a bundle of small cords, or like a split quill under the finger. This pulse is produced by certain articles of the Materia Medica, as the Strychny, & the American species of the Meadewort. - Digitalis also produces a peculiar pulse similar to the above, rendering it irregular, throbbing, & giving a feel as of several cords drawn to different degrees of tension; & this is often the first indication of its operation.

The pulse is said to be morbidly natural, when in circumstances under which, according to the laws of the animal economy it ought to vary from health it manifests no such variation.

There is another condition of the pulse not uncommonly occurring in farmers, sailors, laboring men & very often in old people, in which the coats of the Artery become acrid, & in some or other



fixed - it is felt to be rigid under the finger. The danger in this case is in mistaking rigidity for strength, at times even times occur.

The above mentioned marked conditions of the pulse must be in some degree permanent in order to constitute any indication for treatment. Slight affections will frequently produce great disturbances in the motion of the Circulation if the indications of the pulse were alone to be regarded might excite serious apprehensions. In most cases however other circumstances will attend assisting or determining in the diagnosis. Generally a too frequent pulse, if it varies much from the ordinary standard of health indicates more or less of disease. An important point connected with this is the relation of the function of Respiration to that of the Circulation. Any considerable disproportion between them too from their regular healthy action, is of far more importance in the diagnosis & prognosis of disease than the indications of either taken singly. The ratio between them has been very differently estimated, some marking it as 1 to 3, or less, others much higher. There can hardly be a doubt however of a great number of persons who are unaware of any marked observation it seems to be established at 1 to 4.2. In all these cases therefore where this ratio is very much disturbed, when the respirations were being 18 or 20 in a minute it is to 30, 40, or even 60. The pulse in the meantime remaining comparatively slow, as is particularly the case in Pneumonia, & some other diseases, particularly



of the lungs & air passages, there is much reason for anticipating a severe or dangerous attack. On the other hand, if the course of this happens, the respiration being comparatively slow, - the pulse frequent, we have one of the characteristic marks of Typhoid and Typhoid diseases.

When the pulse is found preternaturally frequent, quick full & weak it always indicates an Abnormal Condition of the System. Also the degree of its variation in frequency produced by slight exertion & emotion is a very sure indication of the degree of exhaustion of the Circulatory System.

A pulse preternaturally frequent & small, & at the same tense or hard indicates the condition of irritation & excitement. This pulse is felt both in the systole & diastole. It is the pulse which is most frequently found in Pleuritic Affect. It is also found in Acute Pneumonia, Sub-acute pneumonia, Yellow & Putrid fever, Erysipelas & Malaria. It is the natural pulse of Exquisite Erythematous Eruptions. A tense pulse always being felt in this disease. The injudicious use of Calomel is said to produce a pulse similar to the above condition of the Essential Vessels, as of the Circulation procured by the Black Birch -

There remains one other pulse to be noticed, viz, the Pulse of Health. The proper Characteristics of this are included in the regular pulse. It is equal in frequency, quickness, & of moderate tension.



4 Volume. It should not be taken as the Standard of a Strong pulse, since it has a much nearer relation to Strong than to Phlegmatic Diathesis.

As a function of the System, so susceptible to influences both external & internal as is the Circulation, we should expect to find many variations from any Standard. This is very widely true of the pulse & yet most of these causes bear a precise & coincident relation to their effects, that with proper knowledge & discrimination, there is little danger of being misled & little difficulty in forming a sound, & practically useful diagnosis. -

Many of these Circumstances are observed to act uniformly, & we may lay down general rules in regard to their influence. - The most prominent variation is that dependent upon the time of life. The importance of the pulse lessens as the age increases under ten years. In children it is much more frequent & uncertain than in Adult age & is a fallacious guide in the diagnosis of their diseases, unless the observer is acquainted with its peculiarities. - The pulse of newly born infants is generally estimated at 130. or 140 beats in a minute, & from this number gradually decreasing during the first year to about 120. & during the second to 100. From this time to the sixth year it varies from 90. to 100. & about the time of puberty or before acquires the natural Standard which it observes for the remaining period of life. - The reason of this greater frequency of the pulse during infancy & childhood, is readily found, in the mechanism of



The Animal life at this time + in the functions of nutrition of cere-
bra + absorption being carried on with greater activity than when
the system has acquired the firmness + strength of adult age +
which then all the functions are performed with greater regularity.
+ the balance of action is now uniformly preserved. The average num-
ber of pulsations in a healthy adult, in the New England states is
about 73. or 75. beats in a minute. Towards the later periods of life
however, the pulse is said to become slower, often not being more than
60. beats in a minute—

Between the different sexes there is observed considerable
variation of the pulse, that of females being more frequent + more
nearly resembling the pulse of youth. The reasons of this difference
are too obvious to mention. Habit + Employment have also more or less
effect upon the pulse.

Temperament. The peculiar characteristics of the differ-
ent temperaments it is not necessary to mention here, but it is a
part of physiology very important for the physician to understand.
The different degrees of excitability, + the different degrees of vigor
with which the vital functions are carried on in each will furnish
important hints in the administration of medicines, explain-
ing many of the variations which are observed constantly to occur in
the different functions of the system. —



Idiosyncrasy - Many cases are called *Idiosyncrasies*, not of the pulse only, but irregularities in many of the functions, which are not perfectly so. An *Idiosyncrasy* is not simply a variation greater than ordinary from natural phenomena, but of a character inexplicable upon the common principles of the action of the particular parts. Such cases are occasionally met with in the pulse. Dr. Hibernian mentions two patients who in the best health had always very unequal pulses, as well in their strength as in the interval, but which constantly occurred regular as the patient grew ill, - gave a near failing sign of recovery in their own return to a state of irregularity.

Different postures are observed to have considerable effect upon the pulse, both in its strength & frequency. This subject has been investigated by Dr. Haemon of Edinburgh, Dr. Ferriar & Dr. Graves. The results of their investigations were that the variation between a horizontal & an erect position ordinarily amounts to from 3. to 15. beats in a minute, - in cases of extreme debility, to 30. 40. or even 50. The amount of this variation is always a part of the degree of exhaustion in different cases, & consequently of the very last practical importance to the physicians as well as to the patient. The sitting posture is considered by Dr. Graves as the mean between the horizontal & erect.

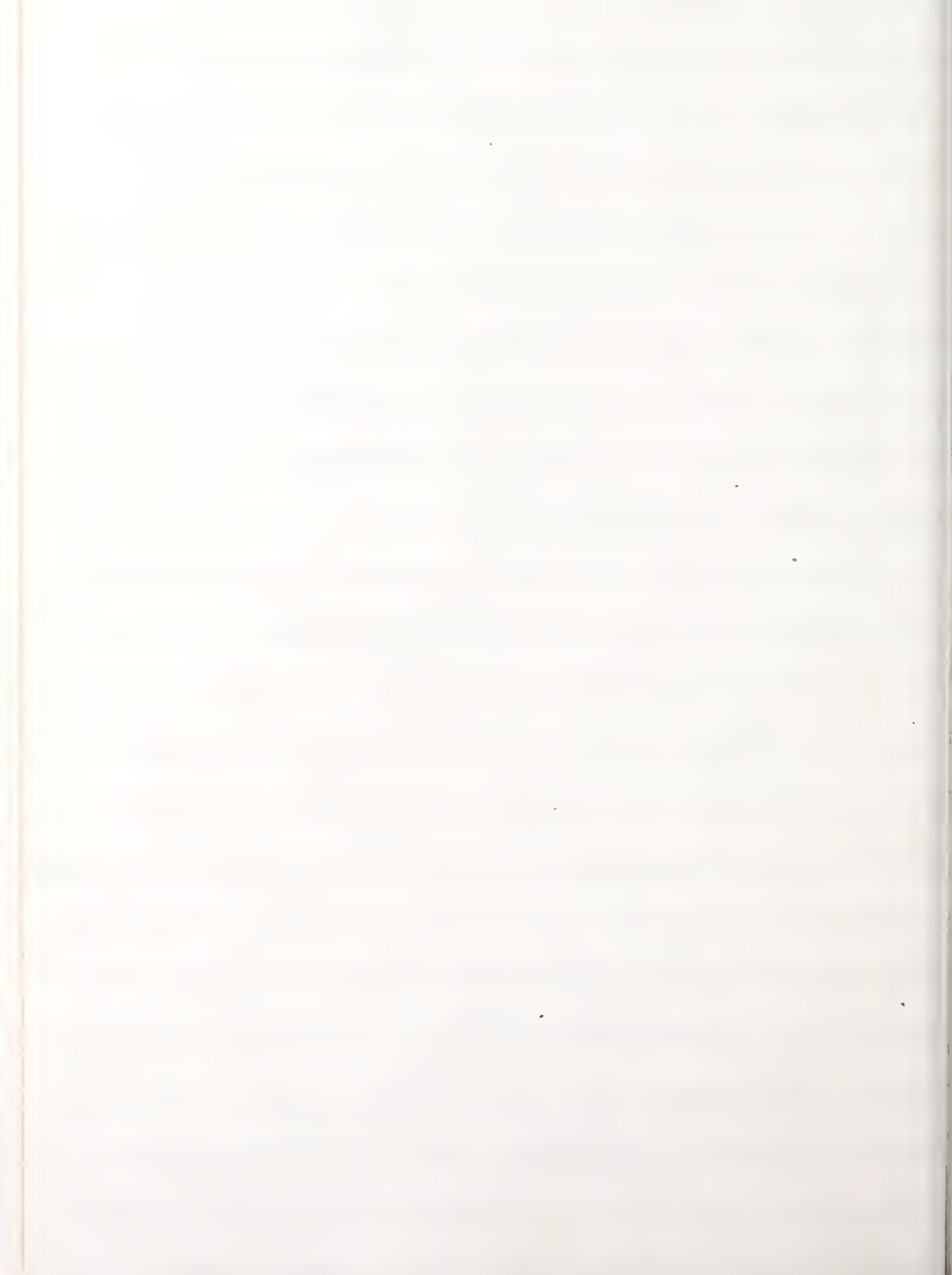
There are several other variations of the pulse depending upon different causes, such as its diurnal changes, being more



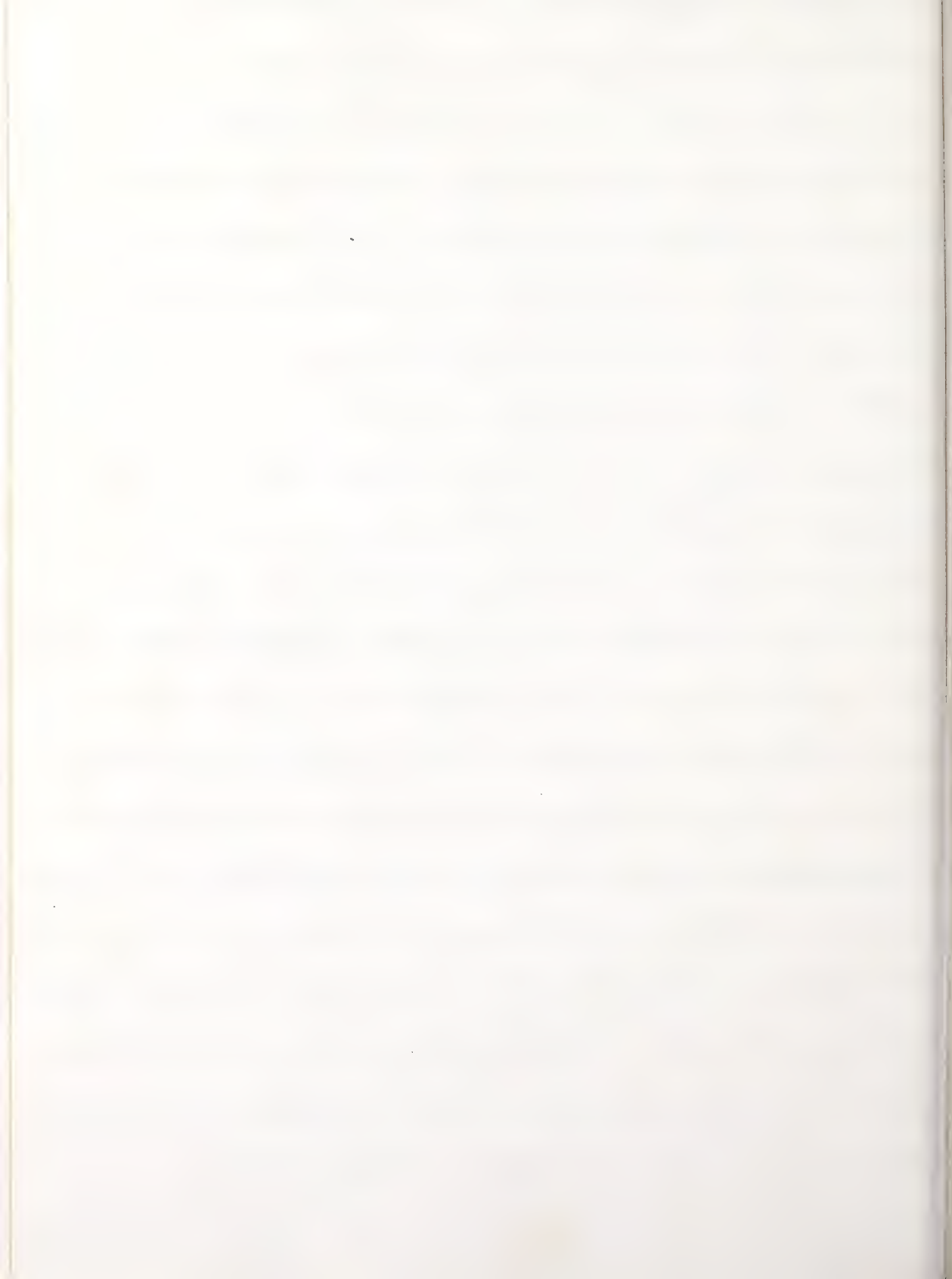
frequent at evening than in the morning, - an increase of its action during the process of digestion, - the effect of climate, - of Cold & heat, - & of the various mental conditions. All these things should be allowed their due importance in the investigations of the pulse.

I have thus mentioned some of the most important divisions of the pulse, & those circumstances which bear more or less influence in modifying or changing its action. The practical application of these conditions to all the various diseases it is evident would far exceed the limits of an essay of the present kind, & the experience of the writer. -

It is always expected of the physician that he will examine the pulse, & if he does it knowingly & skillfully, he may sometimes at least derive the benefit of strong impressions upon the minds of others if he receives none himself. In feeling the pulse it is of no great importance what part is selected, though the artery at the wrist is the one usually chosen. The Anatomical structure of the part, & its practical convenience under it in a number of cases the most eligible. - If the pulse is felt in unusual situations it may mislead those who are not acquainted with all its variations from the different sections, situation & circumstances of the parts. It very commonly happens that when the arm is in a horizontal position for the examination of the pulse the muscles will become more or less tense. This action should be suffered to cease, & the



arm should lie perfectly easy & the muscles relaxed. The action of Celsus is well worthy of being remembered. He says, "When the physician first enters the room, if he be a skillful man, he will not immediately apply his fingers to the patient's wrist, but will first sit down with a cheerful countenance, & make some general enquiries, & if he observe any alarm in the patient, he will relieve him by encouraging remarks & will then proceed to examine the pulse." We should imagine from the above, that in the days of Celsus, knowledge, especially of Medicine was not so universally diffused as at present, & that something more than a month's study & Dr. Thomson's book were required to qualify one to examine the pulse, & treat disease. - With the mind of the patient then as far as may be at ease, & all extraneous circumstances removed which would interfere with, or confuse his investigations the physician may render the pulse an important and interesting investigation, ascertaining the nature & character of disease. For this however, he should, as far as possible, ascertain the ordinary state of the pulse in each individual as dependent upon his peculiar constitution & habits, in the next place, how far it may be supposed to be affected by circumstances external or internal, independent of the disease. - Lastly, he is to consider it in respect to any or all of the above mentioned conditions, & to trace its connection with the sub-



most cases of the disease + with the derangement that has been
induced in the various powers + functions of the system. This in
connection with other symptoms will often render plain to his mind
what might otherwise have been obscure + unintelligible.

W. A. Brownson



VII.

Dissertation
On
Melancholia.

By
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Melancholia.

This disease, according to Cullen, belongs to the class Neuroses, - order Maniacs; - Sauvages and Hagar place it in the class Maniacs, - order Deliria, - Good in the class Neurotica, - order Phrenica, genus Ephemera.

Sauvages divided this disease into fourteen distinct species, which it would be tedious and useless to repeat, as it is evident from his description of them, that a majority were forms of Hypochondriasis or Hysteria.

The term "melancholia" is derived from the Greek μέλας, black, and χολή, bile, because it was formerly supposed that an excess of cystic bile was the cause of the disease. It is however, essentially a disease of the nervous system, often affecting the nerves of organic, equally with those of animal life.

There are but few diseases, the pathology of which is as obscure as this, and which hold out as little promise of successful investigation. Dissection throws but little light on the subject. The slight changes which are sometimes observed in the structure of the brain, or the effusion of serum, which is often looked



is almost a decisive proof that the disease was entirely of this organ might have occurred in another subject dying of an entirely different affection.

Among those who have paid most attention to this disease, Pinel, Esquirol, Haslam, Will Ellis, Barrow, Richaud, and others might be mentioned. Nothing daunted by the intricacy of the subject, or the contradictory appearances or dissections, they prosecuted their inquiries with increasing ardor, and by their efforts produced a gradual and salutary change in the treatment of the unfortunate subjects of this malady. Although these post mortem examinations afforded them no clue to the direct nature of the disease, they became more convinced that it affected chiefly the organ of the mind, and that remedies of a mental nature were among the most important. By the exertions of such men, the attention of physicians was directed to a subject which then formed but a slight part of medical practice, and which even now is not invested with the importance which naturally belongs to it. Ordinary diseases, affecting comparatively unimportant parts of the system, were carefully investigated, and various methods of treatment devised; but here



was a malady, affecting the most important part of man, - benumbing his intellectual faculties, and making him more miserable than almost any other disease, which was passed by and much neglected, either on account of its intricacy or hopelessness. The ill-fated sufferer was confined in some solitary place, and immediately reduced to the condition of the beasts. He was considered as one hardly having a soul, or capable of ever enjoying life again in common with his fellow-creatures. - At present, when insanity is found to be a curable disease, the profession generally have made mental and nervous affections more a subject of study, and have been amply repaid in foreseeing and preventing insanity by a timely administration of remedies suited to the case. Yet much remains to be understood in this particular, and it is to be hoped that ere long, this disease will form a part of the practice of the ordinary physician, as much as any other malady.

The object in this essay will be, not so much to give new views on melancholia, as to furnish a concise epitome of the opinions of the most approved authors on this subject, and some few impressions derived from seeing a number of cases of this disease.

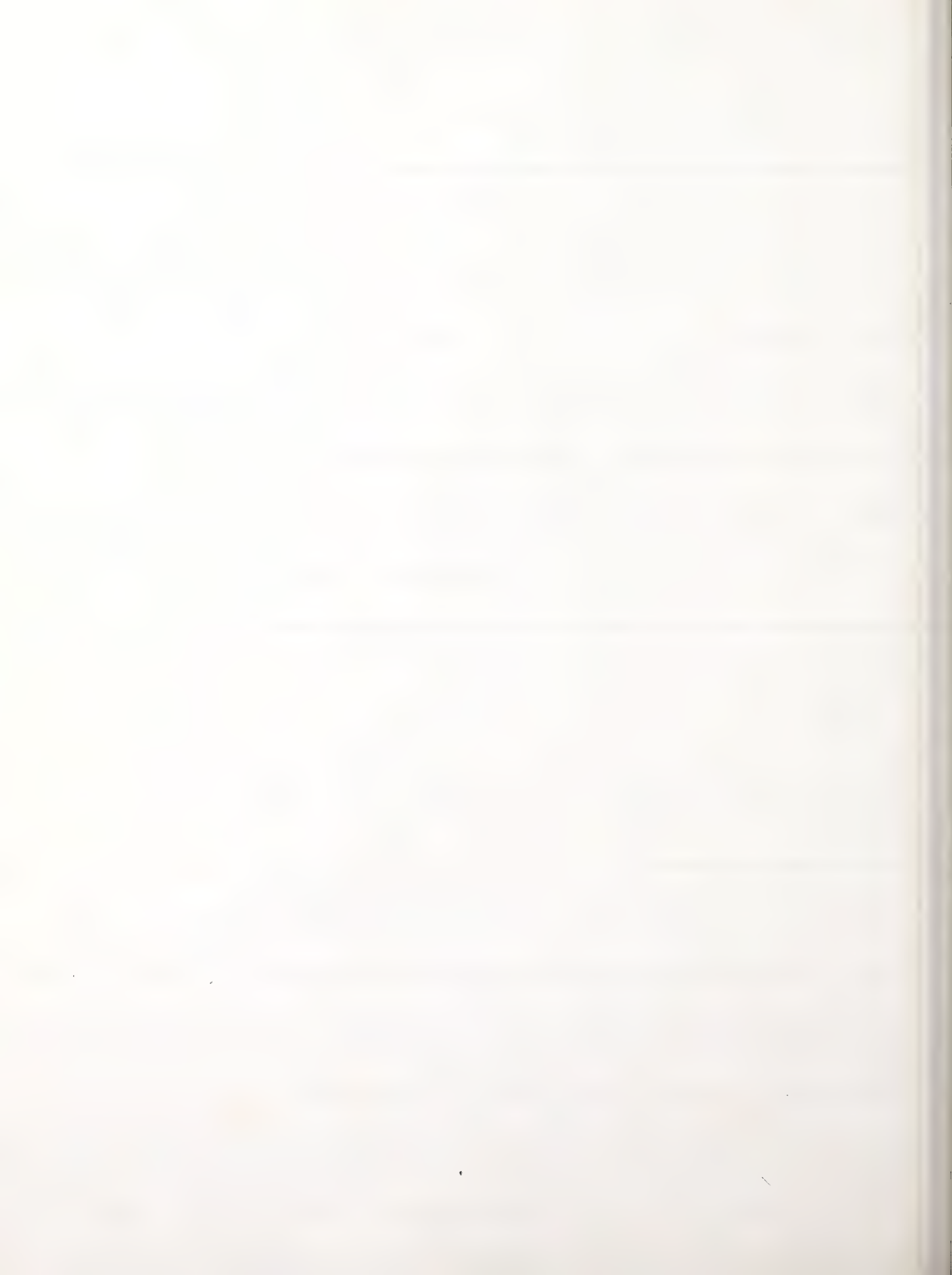


The causes of this disease have been divided by authors into the moral - affecting the body through the medium of the mind, and physical, acting directly on the animal organization. These are often combined. - The most common cause assigned, is sudden reverse of fortune. By this must be meant from prosperity to adversity, which would in most persons call into action the depressing passions, whose continued exercise in minds so predisposed would produce permanent melancholy. The preponderance of the depressing passions does not necessarily bring on this disease; it may produce mania, or hypochondriasis, but we should hardly expect to see melancholy resulting from joy, or any of the pleasing emotions. On the contrary, it is often the consequence of disappointed love or ambition, - loss of friends or property, - blighted reputation, and sometimes may arise from an incorrect idea or suspicion, as unfounded jealousy, distrust, of the motives or intentions of friends, &c. Melancholy often results from mania, and there are cases where it, alternates with, or terminates in this disease. When it is a consequence of mania, it usually results in fatuity, and may be considered incurable; and when

there is an alternation of the two, the prognosis is hardly more favorable. The manner or the time of change from mania to melancholy cannot be defined; it is sometimes immediate, — most generally gradual, and sometimes occurs after apparent recovery from mania, the patient in relapsing becoming melancholic.

Among the physical causes, which are far less numerous than the moral, may be mentioned, indigestion, sedentary habits, irritation in the alimentary canal, functional disorder, or organic disease of some of the important viscera of the thorax or abdomen, &c. Injuries of the head sometimes, but, rarely, produce this disease. — they more commonly result in mania or fatuity. Melancholia may be hereditary, — not in the usual sense of the word, but a predisposition is inherited, so that slight exciting causes, which would not affect others, will, in these cases, arouse the disease. It has also been said that it alternates with mania in successive generations. — This disease rarely occurs in youth, but, forms the greater portion of cases of mental derangement, between the ages of 35 and 60 when the ardor and enthusiasm of youth gives place to the realities and disappointments of mature age.

This disease is characterized by a derangement of the reasoning faculties, - the errors being in judgment, and not in perception, - often by a belief on the part of the patient of his inability to comply with the requirements of his creator, or that he has by some action, incurred the Divine vengeance, expecting misery in this world and the next. In the commencement of the disease, his general health is often apparently good, there is no febrile condition of the system, or local determination of fluids, - and where the cause is of a moral nature, no disturbance of the natural healthy functions. In the progress of the disease, digestion is imperfectly performed, and in persons of a strong muscular system, and phlegmatic temperament costiveness is frequently present. The expression of the countenance is that of anxiety and dejection, the eyes are dull, - the pupils at times dilating and contracting alternately, - and wandering from object to object, yet appearing to notice none. - He seems burdened with some fearful secret, and to be afraid to move or speak lest, he should disclose it. He shuns the society of his friends, and either shut himself up, or wanders forth without any apparent object.



Most generally however, he chooses solitude, and often refuses to converse or even eat. In this stage, there is great torpor of the digestive passages consequent upon the inactivity of the patient; who chooses mostly the recumbent position, and will not change it unless compelled.

Although he clings thus to his bed, his object is not generally sleep, but only to avoid muscular exertion. So far from sleeping much, is he, that often there is great watchfulness, and if at any time the unhappy sufferer falls asleep, incubus and the most distressing dreams harass him, so he seems to gain no strength or refreshment from his sleep, having a consciousness of all that is passing around him. — Changes of the atmosphere, of scenery — of light and darkness, produce corresponding, but slight changes in his feelings, which seem to be governed not by his own will, but by the nature of surrounding objects.

The skin is sometimes cold and clammy; — at other times dry and rough, and covered with whitish scales, as if it had been dusted with bran, the circulation sluggish, — the extremities cold, with a livid appearance.

In some cases, the patient complains of fixed pain in the region of the stomach, liver, or some other of the



internal viscera, often causing the stupor observed in this disease. There is evidently torpor of the chyliferous system, caused by an abundant secretion of a thick and viscid mucus, which lines the alimentary canal, and obstructs the lacteals.

Spontaneous recovery of health is an extremely rare occurrence and it is difficult to say in what form of the disease this will be most likely to happen. Perhaps when the disease originates from moral causes, as disappointment, loss of friends, &c. time, which blunts the point of the keenest anguish, may gradually remove the saddening recollections, and restore health to the sufferer. But this termination is not often accomplished without the aid of medicine, — the result generally being, permanent fatuity, or death.

This disease may be confounded with some forms of mania, or hypochondriasis, which is clasped by Eschscholtz with melancholia, under the head monomania. But he gives no examples of true melancholia, his illustrations being entirely of what is usually a distinct species of insanity, — monomania, and hypochondriasis, one of his subdivisions. — There is sometimes a difficulty in distinguishing it from hypochondriasis. It is more regular



in its form and termination than the latter, and yet is often simulated by it.) In hypochondriasis assuming this form, the patient is generally talkative, full of complaints, assuring every one that he meets, that he is the most miserable being that ever existed, or he fancies that, from some moral or physical cause he is unable to speak, and will only answer questions in writing, - while in true melancholia the silence is combined with great anxiety and depression of spirits.

The distinction between this, and mania, is generally obvious, rarely obscure. Usually, in mania there is more heat of the head, more activity of the circulation, and of the system generally, than in melancholia, but when a mild form of mania presents a difficulty in diagnosis, a difference may be observed in the manner in which they perform the same actions. If it is equally disagreeable to each, both will refuse to act; but if compelled to obey, the one will do it quickly, and with evident anger, while the other will go through with it slowly and reluctantly.

In mania, the patient makes every object, a subject of remark, exhibiting great changes in disposition, from hilarity or cheerfulness, to great anger, while

the melancholic adheres rigidly to his old impressions, and is generally silent and taciturn, often appearing silly or idiotic, when his eye fully meets that of another person. This is probably a prominent reason why the unfortunate class of lunatics were termed idiots by ancient writers. "Idiots," he says, "constitute the greatest number of patients at Lunatic Hospitals, and their pitiable condition has in too many instances originated in severity of treatment," that is, in the treatment of mania. In melancholia, there is less excitement of the brain and greater visceral derangement than in mania, where the brain appears to be the primary seat of irritation. It has also been asserted by some that insensibility of the skin to excitants was peculiar to mania, while in melancholia an opposite state prevailed, particularly with regard to impressions from cold.

With regard to the treatment, it can safely be said that it has undergone greater change terminating in satisfactory results, than any other disease with which we are acquainted. Formerly, if one showed symptoms of mental derangement of any kind, very little effort was made to recover him from what was considered an

incurable disease, but he was shut up, and merely allowed to live, - a burden to himself and society.

The change, or improvement in treatment consists in using kind and gentle measures, and invigorating by suitable means a debilitated system.

The first object, should be to remove the patient, from his friends and present associations - this should, in every case admitting it, be enforced, as a primary, and essential measure, and as affording the greatest probability of recovery, especially in recent cases. If no Lunatic Asylum can be resorted to, either on account of the patient's local or pecuniary situation, it will be better even to remove him to some private house, in order to change the objects surrounding him. Neither should his friends be allowed to attend, or even to visit him, which they will often urge) until recovery, or permanent derangement is certain.

There are some cases, where from some cause it is impossible that these measures should be adopted, how necessary then is it that the ordinary physician should understand this part of his profession! These cases may often be cured, if promptly attacked in the commencement, by mild

evacuants and tonics—amusements, and encouragement, to exercise in the open air, which should be so managed as not to seem tasks to the patient.

The attendants should be selected with great care. Much discretion, patience, and kindness is necessary to manage rightly a case of melancholia, and the chance of recovery depends much on this management. The patient's situation in life, and turn of mind should be considered, that attendants suited to these circumstances may be selected.

In the next place the state of the bowels should be attended to, as they are generally torpid, especially if the disease is of some time standing, and laxatives will usually be found necessary. They are also useful adjuncts throughout the course of the disease. These, however, must be used cautiously, as the patient is often debilitated before receiving any medical treatment, and by pushing cathartics too far, or using improper articles for this purpose, he may suddenly die, which although often attributed to the disease, is more frequently the result of injudicious treatment. The object in giving laxatives should be to procure daily evacuations, and no more. For this purpose, Rhubarb, Elix. Pepsidatis,



or any mild laxative may be used. In cases when the liver is affected, a pain in that region is complained of, occasional doses of the pill will be found serviceable. Active cathartics are rarely needed in this form of mental derangement, still they may be indicated in obstinate cases of costiveness, and will at such times prove highly beneficial.

Emetics have sometimes been used with benefit. They are especially indicated in cases occurring in young persons of sedentary habits, when indigestion, and a congested state of the digestive organs form principal symptoms in the disease. They act by relieving the oppression, and equalizing the excitement. There is a stage of the disease in robust constitutions, when emetics seem to do good by producing a strong impression on the system generally, through the nerves of the stomach, and raising the patient from his torpor and inactivity. When, however, excitement of this kind becomes necessary, there is danger of a relapse into the former state in a short time. Ipecacuanha or sulph. Linci may be given separately, or in combination, but Ipecac alone is to be preferred.

Statives are the chief remedies to be relied on, and



of these a variety have been used. There is usually great debility of body, and comes are the first remedies to be used after the bowels are regulated, and generally mild articles of this kind will be found sufficient, as thus, Colubus, a Comp. Tinct. Gentian combined with wine may be given freely. Throughout the course of the disease, vegetable tonics are to be preferred, and when a strong impression is wanted to excite general action, the Mistura Quinia[†] is an excellent article. Carbonate of iron combined with conium has been recommended and much used, and is decidedly a valuable form of administering a tonic and narcotic together. It has produced favorable results, but seems to have more effect in a high state of excitement or mania. Although in the latter form, there is great restlessness and excitement, there is debility, and if depletion and sedatives are employed to remove these symptoms the patient will probably sink suddenly on arriving at a calm state.

In every case of this disease, and particularly

† R Tinct. Linchm. comp -- zii
" Gentian " --- zvi
" Capsicum " --- ziv
Quinia Pulphas - - - zi
Acid. Sulph. - - - Mxxx.

M. Dose, zi in wine or water.



where the skin is rough, with a scaly appearance, or cold and clammy, recourse should be had to the warm bath. It may be used two or three times a week, making application at the same time of cold to the head. After the use of the bath, the body should be rubbed smartly, and all thorough dry, with a coarse towel, or flesh brush. This in a short time, generally not more than four or five weeks, will remove this unnatural appearance, and impart warmth, and a healthy hue to the surface. It should, however, be persisted in much longer than this, as it serves also to remove irritability, equalize the excitement, and produce sleep.

In many cases, the sufferer pines restless and watchful nights, his countenance daily appearing more sunken and dejected, and his system exhibiting marks of rapidly increasing debility. This collapse may arise either from mental distress and hallucinations, or actual bodily pain. In functional or organic disorder of the liver or other abdominal viscera, the pain is local and circumscribed; - in extensive derangements of the nervous system, more general, affecting the patient with a sense of irritation or uneasiness, rather than what is usually called pain.



in either of these conditions, the symptoms should be combatted by a free administration of narcotics, or nervines, and some care should be taken that these do not produce unpleasant after effects. When opium can be borne, it is undoubtedly useful on account of its great power in relieving pain, but its constipating effect offers an objection to its use. It may, however, be used in the form of Dover's powder, and good effects have been known from the use of this preparation.

Hyoscyamus ranks among the most useful narcotics, not producing constipation or nausea, and removing that unpleasant irritability of the skin, which is often present in this state. A combination of Tinct. Hyoscyam. Tinct. Cupuline, Camphor gum, and Ol. Valerian[†] has been used with great success. A fluidrachm of this, given at bed-time, generally induces quiet and refreshing sleep, and the patient awakes in the morning, without head ache, nausea, faintness, or any of the unpleasant symptoms produced

℞ Tinct. Cupuline

℥ss Hyoscyam. aa — ʒiij
 Camphor gum — — ʒi
 Ol. Valerian — — ℥xxxij

M. Dose from ʒss to ʒiij

in the use of opium, except perhaps, occasionally, a slight dryness of the fauces, which lasts but a short time. It also seems to retain its power in removing restlessness, and what is often called nervousness, after a long continued use of the article. This treatment should by no means interfere with the administration of tonics, for these last alone will often subdue the irritability, by giving strength to the system, and thus removing one cause of restlessness.

But remedies applied to the mind are perhaps of greater importance than any others;— in some cases indeed, by a tonic and invigorating course of medicine, the mind will gain strength with the recovery of the healthy bodily functions, but to make these remedies of the greatest use, efforts should at the same time be made to detach the mind from those erroneous notions to which it clings with so much tenacity. And these efforts should be made in such a manner, that the patient may not perceive that they are directed, particularly for the purpose of changing his views, but that this may appear to be spontaneous acts, arising from kindness, and a desire to please him. If he sees that the main end & object of his attendants

is to drive him from his present impression, it will only cause him to watch and contemplate these morbid ideas more carefully, and thus retard the cure.

The attendants, as has been before remarked, should have great patience; they should always wear a smiling countenance, and in their conversation should not attempt to oppose, or even allude to the state of the patient's mind, but should endeavor to interest him with other subjects, changing them as often as they perceive he is weary of any one. Ridicule or sneering should never be allowed to form a part of the treatment, but kindness and compassion should constantly be the motive and basis of every action. No melan- cholic patient was ever laughed or sneered out of his dejection.

Gentle exercise in the open air is to be invited, and riding is one of the best. Cheerful scenes should always be selected for his walks and rides, and his attention kept occupied by the objects he is passing. Attention to dress, and even some pride in this particular, should be cultivated, as every such counter- passion weakens the force of the prevailing morbid associations, and tends to the recovery of the patient.)

Many other remedies might be with propriety mentioned, which have been successfully used in particular cases. But these already enumerated will usually be found sufficient, when properly applied, and persevered in. Of course, there is not a perfect similarity in the cases of this disease, and some little change in the remedies will be indicated.

If, after all these means have been tried, and for a long time, the disease continues fixed and unchangeable, we shall at least have the satisfaction that we have done all in our power for the patient, and that we have left no course untried, which could hold out a reasonable hope of saving a fellow being from a tedious and miserable life. When symptoms of decided fatality supervene, or other circumstances occur to preclude the possibility of recovery, our object should then be to make the remainder of his life as comfortable as we could possibly wish for ourselves under like circumstances.

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Hartford, Ct.

VIII.

Dissertation
On
Inflammation.

By
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Inflammation.

We find no subject in the history of medicine that has attracted more attention than that of inflammation. The minds of the most distinguished physicians ever since medicine has become a science have been turned to the investigation of this most important subject. But still there are some things with regard to it which are as yet unsatisfactorily explained, and which give sufficient encouragement for renewed research and experiment.

Many and varied have been the theories which have prevailed at different ages of the world respecting the proximate cause of inflammatory diseases, and each of them ~~had~~ been defended and upheld by men of the greatest skill and profound erudition of the age.

Before the time of the immortal Harvey, when the liver was considered to be the centre of the vascular system and that the blood flowed out from it



during the day and returned at night,
it was supposed that inflammation
depended upon congestions and deposition
of blood or other fluids in the part
affected. If then any pleasant matter
irritated the liver, the blood was sent
out from it more forcibly and at the
same time if any part of the circulatory ^{system}
was weakened, or disposed in any way
to receive a greater quantity of fluid,
then swelling and inflammation followed.

Boerhaave taught that inflammation was
caused by an obstruction to the free circulation
of the blood in the minute vessels,
and this obstruction he supposed might
be caused either by heat, diarrhoea, too copious
flow of urine or sweat; or whatever could
dissipate the thinner parts of the blood
and produce a viscosity of that fluid.

When the Lantor did not exist
before the production of inflammation
he imagined the larger globules of the

blood passed into the smaller vessels,
thus bringing them into the circumstances
was designated an error loci.

We also brought into account an
inflammatory state of the fluids which
rendered resolution out of the question,
and gangrene likely to follow.

The difficulty of giving
a satisfactory explanation of the
immediate cause of inflammation by
any supposed state of the blood alone;
led pathologists to investigate how
far a change in the vessels containing
the circulating fluids might account
for the process. And it is now admitted
by most physicians that the arterial tubes
and especially the capillaries possess a high
degree of contractility whence the motions
of the fluids in them, the process of secretion
and other local phenomena may be impor-
tantly affected in a manner not at all
explicable by reference only to the action
and power of the heart.

According to Doctor Hartman the action of the capillaries vessels in the production of inflammation is not only supported by many experiments but also many developments which manifest themselves during disease in the human subject.

The blood vessels through every part of the system possess a considerable share of irritability by which they contract and propel forward their contents. Hence the blood by the vessels receives a new impulse even in those vessels which are most minute, and a well regulated momentum is preserved in every part of its course. But it is in the capillaries that the most eminently endowed with this faculty, and are least influenced by the pulsing influence of the heart.

Yet even in these vessels the action of the heart is of high importance in sustaining the healthy circulation, inasmuch as it gives the first impulse to the blood, and



The vessels are endowed with this vital property in order that each organ of the body may receive such a supply of blood as to enable it to perform its functions in a proper manner.

For if the vital contractions of the blood vessels are either increased or diminished, irregular distribution of blood invariably follows and disease is the consequence.

Dr Cullen attributed the proximate cause of inflammation to spasms of the extremities arteries supporting an increased action in the course of them. He supposed also that some cause of inequality in the distribution of the blood might throw an unusual quantity of it into particular vessels, to which it must prove a stimulus; and that in order to relieve the congestion the vis-medicalis naturae increases still more the action of the vessels— which as in all other febrile

disorders it affects by the formation of a
spasm on their extremities.

The celebrated and very ingenious
theory of Dr Hunter was that inflammation
was to be considered a disturbed state
of parts which requires a new but
salutary mode of action to restore them
to that state wherein a natural mode of
action will manifest itself. Inflammation
said he is to be considered as an increased
action of the vessels, which at first consists
of a distention beyond their natural size.

This increased or distention seems to
depend upon the diminution of the
muscular power of the artery which
from its elasticity immediately dilates
in the same proportion that its muscular
power is diminished.

Dr Gortii insists that the proximate
cause of inflammation consists in an increased
vital action of some particular artery or
arteries by which the blood is propelled
with greater force than usual into the com-
mon it is in the same manner as

Taking what is generally considered an effect as a cause.

Many years ago experiments were made with the microscope by Dr. William Phillips to ascertain the state of the vessels in the different stages of inflammation. These experiments were made both on the warm and cold blooded animals. It appears that the state of the smaller vessels in an inflamed part is that of preternatural distention and debility.

As to the larger vessels whose state may be ascertained without any instrument it is evident they do not undergo a similar distention, and their increased action sufficiently evinces their increased action.

It is to be observed that although inflammation begins in the capillaries, if it continues long, the circulation in the capillaries becoming very languid, those ^{vessels} immediately preceding them in the course of the circulation begin to be distended and consequently debilitated. Such distention and debility however cannot go far, because that the

by the consequence



A short inflammation seems to consist in the debility of the capillaries followed by an increased action of the larger arteries; and is terminated by resolution when the capillaries are so excited and the larger arteries so much weakened by their premature contraction that the force of the capillaries are in due proportion to the vis-artergo.

Mr Syme in the Edinburgh Medical and Surgical Journal, makes some very judicious remarks on this subject. He thinks too much attention has been paid to the obvious signs of inflammation, viz. redness, heat, pain and swelling, and too little to the altered functions of the part. If this remarkable character of inflammation (said he) had been in view pathologists would hardly have spent as much labour about contraction and dilatation of the vessels;

Since it is obvious that mere difference
of capacity could never enable us to
explain the alteration of function, any
more than a knowledge of ^{the} size of the
capillaries could instruct us as to
the mode in which secretion is per-
formed during health.

Doctor Macintosh contends
that inflammation depends upon three
important points much neglected
by medical writers. 1st the influence
of the nervous system. 2^d The change in
the qualities of the blood. and 3^d the
disturbed function of the capillaries.

He farther remarks that the essence
of inflammation partly consists in more
blood entering by the arteries than can
escape through the veins, or than can
be made use of, as ^{is the case} when the part is
in a state of health, and its functions
actively performed; the consequence is
an accumulation of blood or congestion
and effusion from partial obstruction.

learned Doctor has not been fit to inform us.

Dr Marshall Hall considers inflammation to depend upon a diseased condition of the capillary system and minute vessels causing an adherence of the globules ^{of the blood} to their sides producing stagnation.

Dr Eberle also believes it to consist in a diseased state of the capillary system.

Thus we see that different men, and those who have enjoyed the highest reputation for medical science have differed very materially in regard to this important point.

The subject is still unsettled and remains open for renewed investigation and experiment by those better prepared to do it justice than myself.

Exciting Causes.

Exposure to cold, sudden vicissitudes of weather, particularly when the air is damp, irregularity of bowels, unwholesome diet, insufficient clothing,

Cold drinks, particularly when the body is heated; depressing passions, excessive corporeal exertion, anxiety of mind accompanied with loss of sleep; mental emotions, mechanical injuries, or anything that has the power of producing on the living system strong & injurious impressions.

Varieties.

Inflammation has been variously divided by different writers, and each one has imagined all scalds to arise from his own peculiar division, but the division which seems to me the most natural is to give three kinds, the acute, subacute and chronic.

Acute inflammation ~~produces~~ is violent in its ^{action} and produces all its effects in a short time. The subacute is not characterized by so high a grade of action, its symptoms are less prominent and does not terminate in so short a time as the first variety.

The chronic form is slow in its progress

often being almost imperceptible and of long duration, producing all its changes in a slow and gradual manner. It is to this variety that most of the changes in the blood thickening of various textures and the formation of many indolent tumours is imputed (Phenomena).

External inflammations are characterized by pain, heat, redness, and swelling.

All these taken together leave no doubt of the presence of this disease; but some of them are frequently wanting leaving the subject now or less obscure.

The pain of an inflamed part depends upon irritation upon the terminable extremities of the nerves of the part, and this irritation is first caused by a distention of the vessels and afterwards an effusion of fluids & heat. The production or increase of heat

in an inflamed part is not perfectly understood, It is probably owing to a suppression of perspiration and a peculiar state of the nervous system. It is now higher than the temperature of the blood at the heart.

Redness. Is produced by an increased size of the vessels so that those which formerly conveyed lymph, now admit red blood.

Swelling. Is produced by an increased quantity of fluids, ^{circulating} in the part.

Much dependance has been placed on the appearance of the blood in distinguishing this disease. The blood generally exhibits what is called the buffy coat or inflammatory crust.

The surface also presents a hollow or cupped appearance.

These two last phenomena are not infallible, for they may not always be present when inflammation exists and sometimes show themselves after

bloodletting has been carried to the greatest extent, as in acute rheumatism.

Mr. Andral places great dependance upon the quantity of fibrine contained in the blood, which is denoted by the firmness of the coagulum.

He considers this less liable to lead astray than the buffy coat.

Terminations

Inflammation terminates either in resolution, effusion, suppuration, ulceration, or gangrene.

It terminates in resolution when there is a gradual abatement, and finally a disappearance of all the symptoms without the structure of the part suffering any permanent injury.

Effusion. This more frequently takes place when the inflammation is seated in the serous membranes; though it sometimes takes place in mucous membranes.

Suppuration. Is that process by which a peculiar fluid called pus is formed.

in the substance or from the surface of the
body; this may be contained in a circum-
scribed cavity or diffuse in the solid
substance.

Ulceration. This is that
process by which parts dead or whose
parts vitality is much impaired are
separated from living parts.

Sanguis. is the most ~~rare~~ ^{dreaded} and fortu-
nately the most rare of any of the termi-
nations of inflammation, and consists
in a ^{total} loss of vitality of the part
affected.

Various phenomena attend
the ~~development~~ ^{effects of} of inflammation vary
in the different textures of the body,
In the skin it may ~~terminate~~ ^{terminate} ~~in~~
in pustules, rashes, vesicles, and papulae,
gangrene, &c. In the mucous membrane
in the formation of mucus or a muc-
ulent fluid, softening, and sometimes
ulceration or sloughing,
In the cellular membrane it terminates

in the formation of pus, effusion of serum, induration and gangren.

In the serous in the fibrous membrane it rarely terminates in any of the latter forms, ~~excepting~~ ^{excepting} resolution, but sometimes in the effusion of a gelatinous or calcareous matter.

In the serous membrane it is prone to terminate in the effusion of serum containing a large quantity of coagulable lymph by which extensive adhesions and the formation of false membranes are produced. Tubercles sometimes form in this membrane, particularly in the peritoneum.

The first change produced by inflammation in the solid viscera is usually softening - the formation ^{of abscess} is rare excepting in the liver and lungs, and perhaps sometimes the brain. I have seen one case which was pronounced such by a distinguished surgeon. Tubercles often form in this portion of the body.

Symptoms.

The symptoms must vary much according to the seat and violence of the disease, and I shall mention only such as occur in nearly all cases. The first that is usually noticed is a sense of soreness or stiffness of the part, soon followed by increased heat and pain, particularly on motion, a full hard and strong pulse, tongue and lassitude, chills, followed by increased heat, ~~and~~ pain in the head back and loins; thirst, urine scanty and high coloured, tongue usually dry and covered with a white or ~~yellowish~~ fur, eyes red and incapable of bearing the light ~~the~~ sensorial powers little affected, the skin is dry and parched, and the bowels costive. If the case is neglected delirium, and stupor may occur

Treatment.

There are some things necessary in the treatment of inflammation more as preliminary than curative measures. First the removal of the exciting Cause; this should always be attended to, as it would in many cases be in vain to attempt resolution as long as that remains to keep ^{up} an irritation.

2^d Position of the part, this should be elevated and everything removed that retards the return of the blood through the veins to the heart.

3^d Absolute rest should be enjoined, particularly in parts connected with joints, also rest in its functions as far as possible; ~~also~~ the recumbent posture, this is often of much importance as it tends much to diminish the force of the circulation in the part affected. In cases of inflammation of the head this should not be insisted on.

The first and great object of the

physician is to bring about resolution if possible; this should be his endeavour in all cases.

The treatment may be divided into general, ^{or constitutional} and local.
1st. Of the general treatment.

Bloodletting is of primary importance in subduing this disease, it should be early employed and to the extent of producing a decided impression on the system. This remedy is not always indicated in all cases, but whenever the skin is hot and dry, thirst considerable, pain in the head and back, and the pulse full, quick, hard and strong, benefit may be anticipated from the use of this remedy, it may be repeated after a short interval if the symptoms indicate its use. After the disease has progressed for considerable time caution will be required in the use of this remedy.

20
Venesection acts both on the vascular²⁰
and nervous systems. It reduces the
action of the heart and arteries, and
restores the health of the secreting system,
as is demonstrated by its effects on the
skin in producing perspiration.
It is also a powerful agent in allaying
pain.

Cathartics are of much importance
in the treatment of this disease,
they may be considered as performing
a double office.

They remove the contents of the alimentary
canal and thus prevent irritation
from that source, and ^{also} excite the
action of the mucous membrane
and thus aid in diminishing the
fluids in the body. They may also
possibly act on the principle of
counter irritation.

In order to obtain all the effects which
can be produced by cathartics there will
be a choice in the selection of them.

2.

A combination of calomel and jalap followed by one of the neutral salts is perhaps preferable to any other. Colocynthis may be used also.

The bowels should be kept in a free state by ^{the} repeated exhibition of cathartic medicines in small doses.

Diaphoretics are powerful auxiliaries in the treatment of inflammation.

Perhaps there is no remedy beside the lancet that acts with so much certainty in controlling vascular action as that of Tartrate of antimony. It should be administered in less than emetic doses often repeated so as to keep the system constantly under its influence. The best form of administration is in ~~that form~~ of solution, from one eighth to one fourth of a grain once in an hour or two; emesis should be avoided.

Opium is often given, and is an important remedy, after the

violence of the symptoms have been subdued by depleting measures; its action should be determined to the surface by combination with other remedies.

The dovers powder perhaps is the best combination in which it can be given. In this form it allays irritation and pain and determines powerfully to the surface.

In inflammations of internal organs the repeated administration of calomel ~~and opium~~ ^{or prevented} from producing catharsis by ~~increasing~~ ^{giving} the quantity of opium, ^(if necessary) is often of much benefit.

The opiates are particularly indicated in cases produced by external injuries.

The diet should be strictly antiseptic; all mineral acids, and green vegetables should be prohibited, the diet should consist of digesting and drinking gruel, and of the most bland diet. The drinks should be of the cool kind such as weak cold water lemon juice &c.

Local Treatment.

When inflammation is situated on the surface of the body, local applications are often of much importance in the reduction of the disease.

The abstraction of blood from the part by cupping vesicles is often very useful and will do much in alleviating the symptoms. If the cups are used they should be applied at a short distance from the inflamed part, on account of producing too much irritation if applied directly on it.

Gold applications are much relied on in the treatment of this disease, and are undoubtedly of much service in a great many cases, but some cases will be found in which they will aggravate all the symptoms ~~causing~~ causing the gold applications that are used. Perhaps the acetate of lead stands highest and in the form of solution applied freely to the part. Some have considered

it unsafe applied to an abraded surface
on account of danger of producing the
specific effects of that article, but I can
find no instance recorded where that
effect has been produced.

Muriate acetate of ammonia have
been much used - also alcohol and water
cold water and vinegar ~~and water~~ have
all been used for the same purposes.

Ice is frequently recommended but should
be used with some caution as you may
carry the cold to a great degree as to
produce congelation of the parts.

When the cold applications fail to relieve
the symptoms or ~~aggravate~~ the warm applications
should be tried, such as poultices, or
the previous applications applied in a
warm state. I know of no means

by which ~~you~~^{we} can judge whether the
warm or cold applications will prove
most beneficial before an actual trial
of the. Many of the remedies have
been used, at times with advantage

21
The steam or vapor bath is considered
a valuable topical application in many
cases, it has a powerful effect in all
misty pains, the seeds may also be
used in the form of poultices. The
belladonna, opium, and infusion of
lobelia are also used. Care should
be taken about applying narcotic
substances to abraded surfaces, as all
consequences might follow in consequence

The internal inflammations blisters
and subcutaneous are often of much
service after the violence of the action
has been subdued by previous depletion.

W. S. Clark.

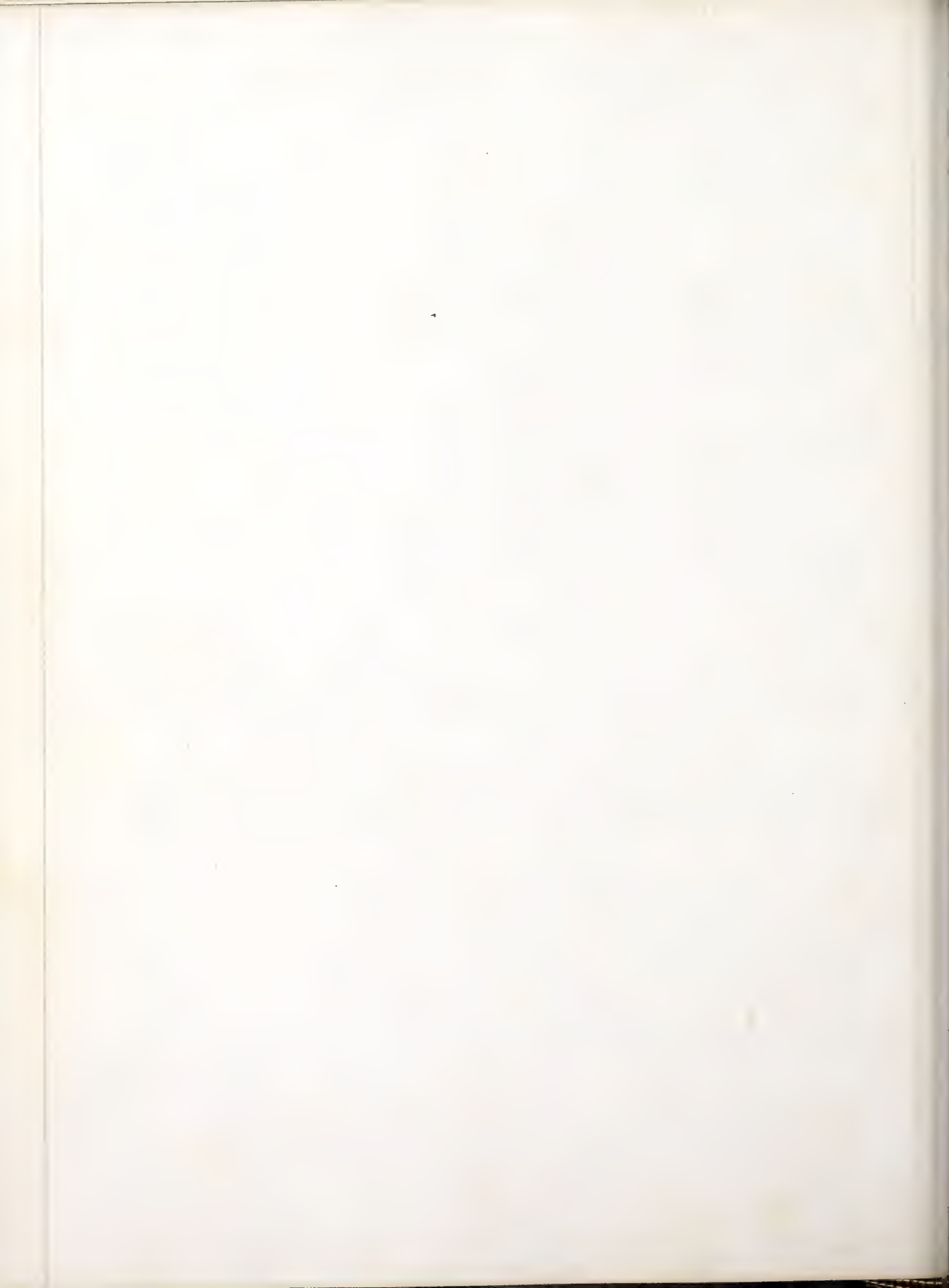
New-Haven Nov. 19, 1843.



~~IX~~

Dissertation
on
Scarlatina.

By
Alfred Washington Coats,
of Sterling, Connecticut,
Candidate for the Degree of Doctor in Medicine.



Scarlatina

Owing to the diversity of symptoms which Scarlatina assumes in different localities and epidemics, also to the different diathesis of individuals, it would be very difficult to enumerate the precise symptoms which may arise in each particular case, as each may be materially modified by, not only these circumstances, but by other diseases which may have prevailed previously, or which are prevalent at the time; and the different views and sentiments of authors may be accounted for, from ^{these} facts — That it prevails more extensively in Winter and Spring than in Summer or Autumn, that it attacks children in preference to those more advanced in years, and that it is many times a disease of an alarming character, will be conceded by every author — The discrepancy of their views and sentiments arises chiefly from their different opinions with regard to the pathological characters of this disease — While some believe it to assume an inflammatory type, others regard it as strictly of a typhoid character, and a radical difference



in treatment must be the consequence of these different views—

Forms of the disease.

Authors intending to be systematic in their classification, have made three divisions—Scarlatina Simplex, Scarlatina Anginosa and Scarlatina Maligna. the distinguishing characteristics of which are, that the symptoms of the two latter are much more, more than the former—

Symptoms

Scarlatina Simplex is generally ushered in by febrile symptoms, such as slight chills, followed by heat.

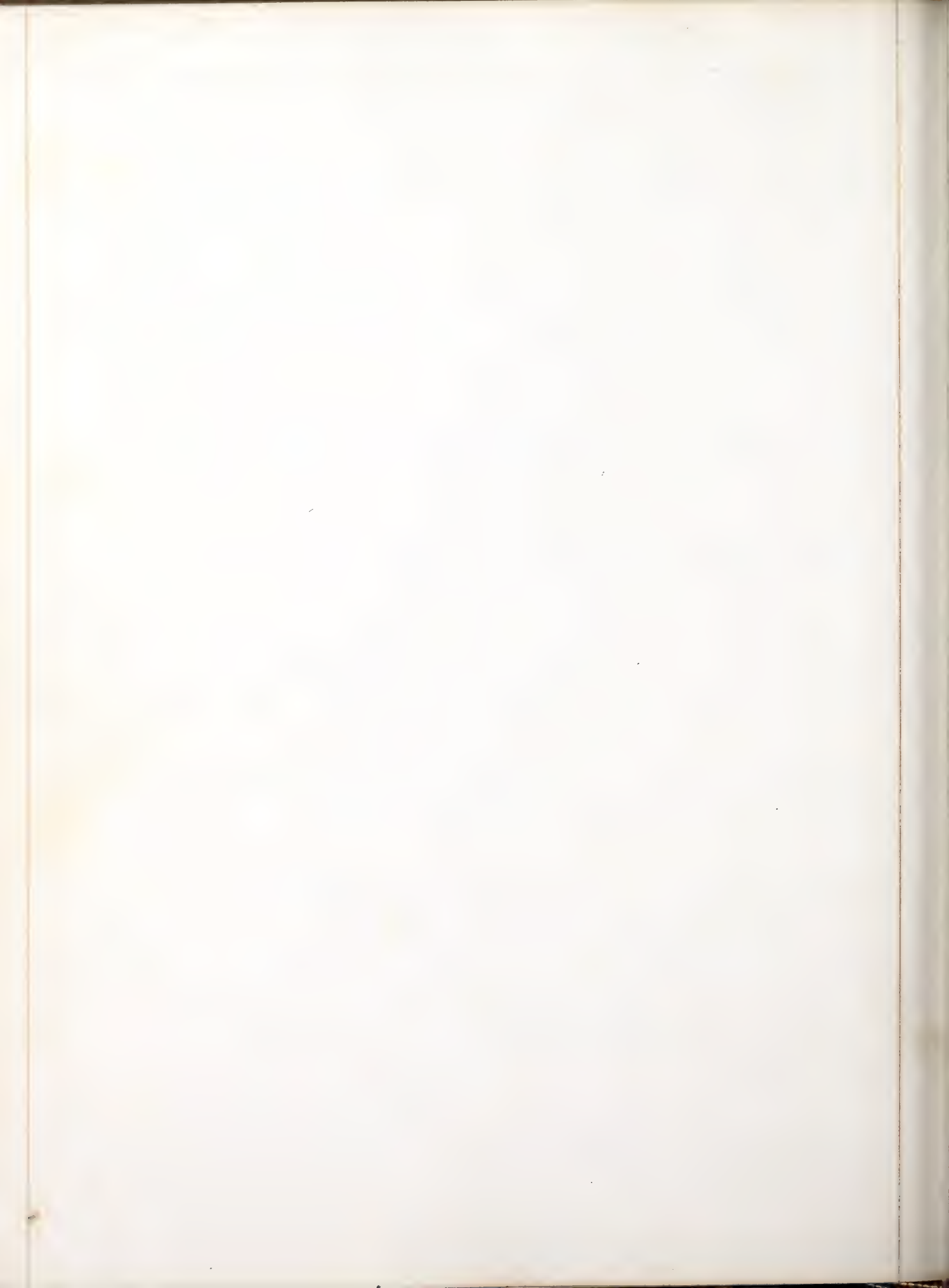
Lassitude, pain in the head and back, nausea perhaps vomiting, thirst, tongue covered with a white fur, dry skin, and an increased frequency of the pulse. — In the second or third day a florid eruption appears upon the skin, commencing generally about the throat, neck and face, and begins to disappear generally about the third or fourth day and is followed by desquamation of the entire



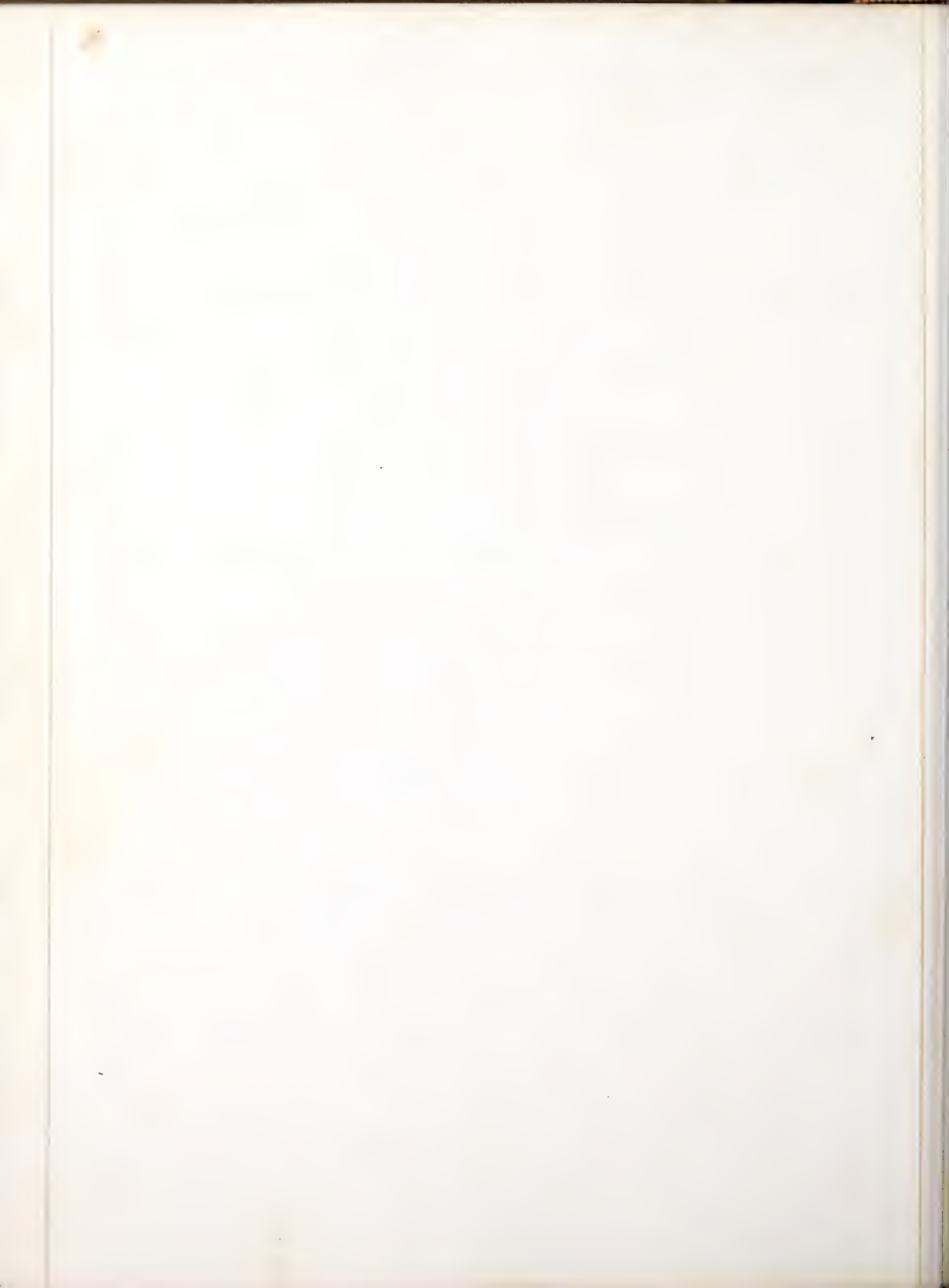
This form of the disease is seldom attended with any dangerous symptoms, or those requiring very active treatment—The other two forms of this disease I shall describe in connection with each other, as the difference consists principally in the severity of the symptoms in the one, being greater than those of the other, or the one form of the disease having a greater tendency to putridity than the other—In most cases which I have had an opportunity of witnessing, the disease has been characterized by debility from the beginning, so that the patient complained of an inability to stand, or move without considerable exertion, or without producing weariness to a considerable degree, and this weakness or relaxation of the muscles seemed to be more particularly confined to the inferior extremities—There may be cases in which an inflammatory type of fever will predominate, but such cases, I am inclined to think are of rare occurrence—The pulse is generally very frequent even in the incipient stage, and when the eruption makes its appearance, it usually ranges from one hundred and twenty, to one hundred and forty, the circulation apparently keeping pace with



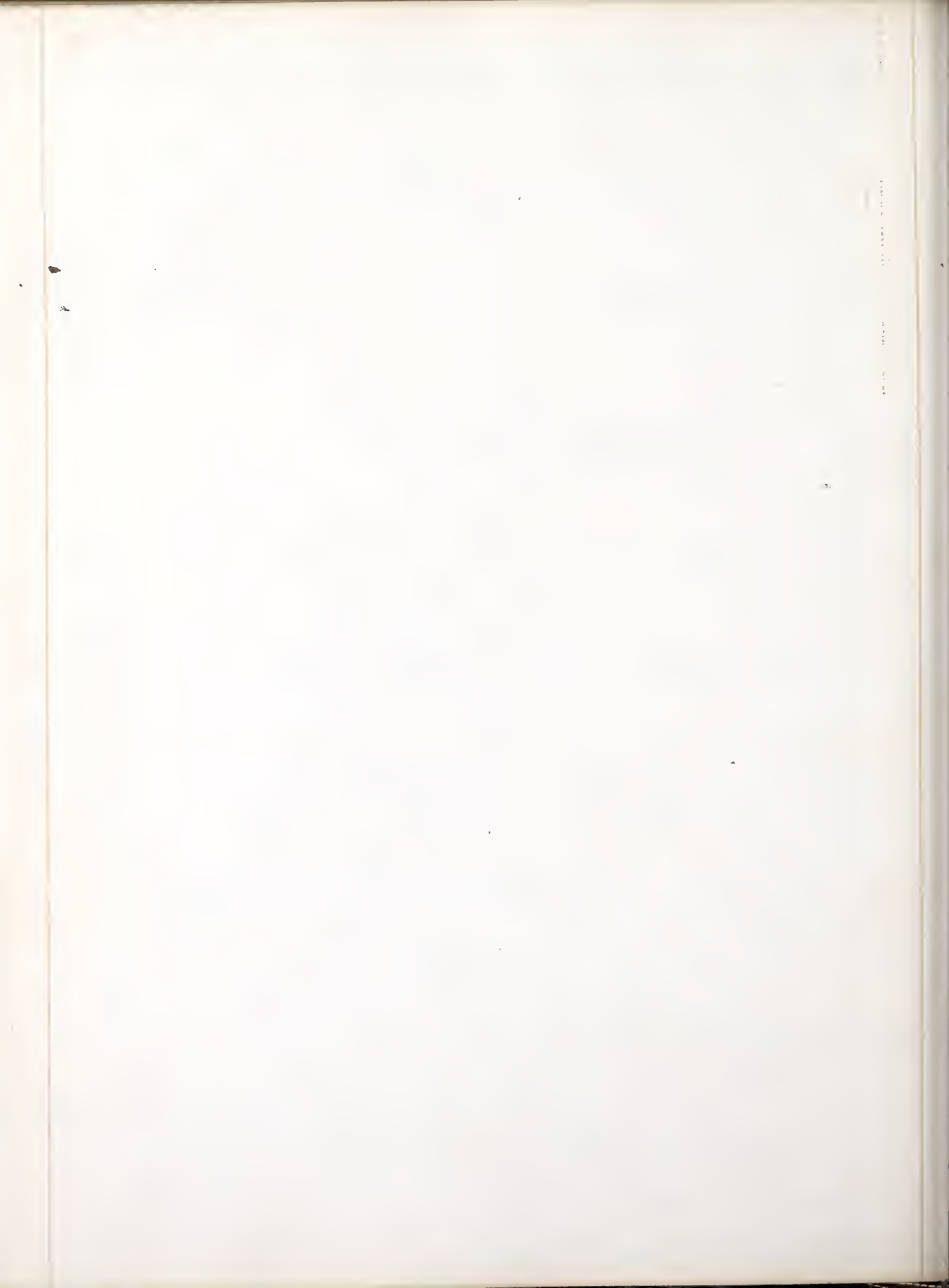
the greater or less development of the eruption— I have known cases however, in which the pulse, after the disease was fully formed, was tolerably full, and not very easily compressed— This is true generally I believe in that form of the disease called *Scarlatina Anginosa*, but in the third form, to which the name of *Scarlatina Maligna* has been given, the pulse is frequent, quick, small, irregular and can be easily compressed, the irregular and intermitting pulse showing an irregular circulation in the heart and arteries— On the second or third day the patient begins to complain of pain in the act of deglutition, and if the throat be inspected at this time, the tonsils will be found somewhat inflamed, and perhaps swollen, and in the latter stages of some cases, become so much enlarged as to prevent deglutition altogether, and unless soon relieved, to produce suffocation— The inflammation generally affects the fauces and pharynx, sometimes the larynx and tongue, and finally extends to the mucous membrane lining the nose, from which exudes an acrid serum, which exoriates the parts with which it comes in contact— There is an exudation also of a tenacious mucus, from



the tonsils and fauces, which becomes so viscid, at times in children, as to threaten suffocation— Sometimes there are catarrhal symptoms present, such as cough and hoarseness, which are occasioned probably by an extension of the inflammation to the mucous membrane lining the larynx and trachea— These symptoms may continue through the disease and eventually terminate in Pneumonia Typhoides— As the disease advances from the incipient stage, small spots form on the tonsils, which soon degenerate into ulcers, covered by grayish or ash colored sloughs— Sometimes also, little ulcers form on the mucous membrane lining the mouth— The glands about the mouth secrete an acrid fluid which excoriates the lips and cheeks, whenever it comes in contact with them— In the latter stage, a dark brown or black scord forms upon the teeth— The breath becomes exceedingly fetid to the attendants, and many times extremely nauseating and offensive to the patient— In the commencement of the disease, the tongue is covered by a peculiar white shiny fur, which after changes to an early period to one of a brownish color, and what is still more peculiar is, that after the



disease is fully formed, the fur upon the tongue may wholly disappear in three or four hours, leaving it firmly red, and may return again in a few days - These alternate changes may continue to occur for several days in succession - Sometimes in the more advanced stages, the fur may leave the sides and tip of the tongue extremely red, while the middle assumes a grayish color with considerable dryness - The thirst is generally considerable, and sometimes almost insupportable - After the eruption makes its appearance, the skin becomes hot and dry, having the appearance of a boiled lobster - The eruption makes its appearance first on the face and neck, which finally extends over the whole body, but is seen more distinctly at the flexion of the joints - The two last forms of this disease commence similar to Scarlatina Simplex, but generally with more severity and accompanied with more pain in the head, distressing nausea and vomiting - These last symptoms are often wanting in the simple Scarlet fever - The glands about the neck frequently inflame and sometimes suppurate - A swelling of the joints of the elbow, wrists, knees and ankles often supervene on an attack of Scarlatina,



also ascites or anasarca, which produces dyspnoea and sometimes death— This is often supervenes on an attack of the most simple form, as upon one of a more malignant character— Urine is secreted perhaps nearly in its usual quantity, but rather more highly colored and of an albuminous character, except in ascites or anasarca, in which case, it is secreted very sparingly— A diarrhoea sometimes attacks the patient, in consequence of the introduction of acrid fluids into the alimentary canal, which are secreted from the tonsils and contiguous parts, or from a morbid secretion of bile from the liver into the intestines, which if not removed, may speedily carry him to the grave— Delirium is also a frequent concomitant of this disease, attacking the patient generally, or more frequently towards night, or in the evening— The mucous membrane lining the Eustachian tube sometimes becomes inflamed and this inflammation is followed by a thin, acrid discharge from the ears occasioning partial, and sometimes permanent deafness— Ulceration and perforation of the tympanum of the ear sometimes occur, forming an open passage from the external ear to the throat, so that any fluid injected into the ear, will pass directly into the mouth—



Diagnosis

There is no disease except Rubiola or Measles, with which scarlatina would be likely to be confounded, and the distinctive characters or symptoms of the two, will generally be sufficient to enable the judicious practitioner to form a correct diagnosis - In Scarlatina, a cough is rarely met with, but in Measles I believe it is always present - In the former disease, it is not that hoarse catarrhal cough which we find in the latter, neither is there that depressing kind of sickness at the stomach in the latter, that is generally present in the former - In Measles, the eruption seldom makes its appearance before the fourth day, is elevated above the surface of the skin, and frequently in a crescent form - The discharge from the eyes is abundant, and acrid - The fever is of an inflammatory character - In Scarlatina, the eruption makes its appearance generally rather earlier, is not elevated above the skin and is in the form of small specks, instead of patches, the eyes are less suffused with acrid tears, cough when present, is without expectoration, the tongue has a peculiar slimy appearance, and the fever accompanying this



disease is generally of the typhoid type - It is scarcely to be presumed that the disease should ever be confounded with *Cynanche tonsillaris*, although, if a patient be attacked with the latter affection while scarlatina prevails as an epidemic, it would be no more than just to conclude that it would assume an eruptive character - A question has often arisen whether this disease be contagious or noncontagious, and it yet remains, with many a controverted point, but I believe a majority consider it contagious - Duglison says "the safest mode unquestionably is, to consider it to be contagious," - It is perhaps no more liable to occur twice in the same individual, than other diseases which are known to be contagious, yet, this is still a mooted point - Gregory thinks it to be contagious and believes the disease commences on the fourth or fifth day after exposure - There have been many cases, undoubtedly, where one of a family has been attacked with scarlatina, while the remaining members of the same family have been exempted - In others, perhaps the majority have sickened with this disease, while one or two remain wholly unaffected -



It frequently prevails epidemically, and in some instances, there may have been sporadic cases—If Scarlatina attacks an individual at the time when other diseases are prevalent, it partakes more or less of the character of the prevailing disease—The pathognomonic symptoms of Scarlatina therefore will depend very much upon its detachment from, or complication with other diseases—

Treatment

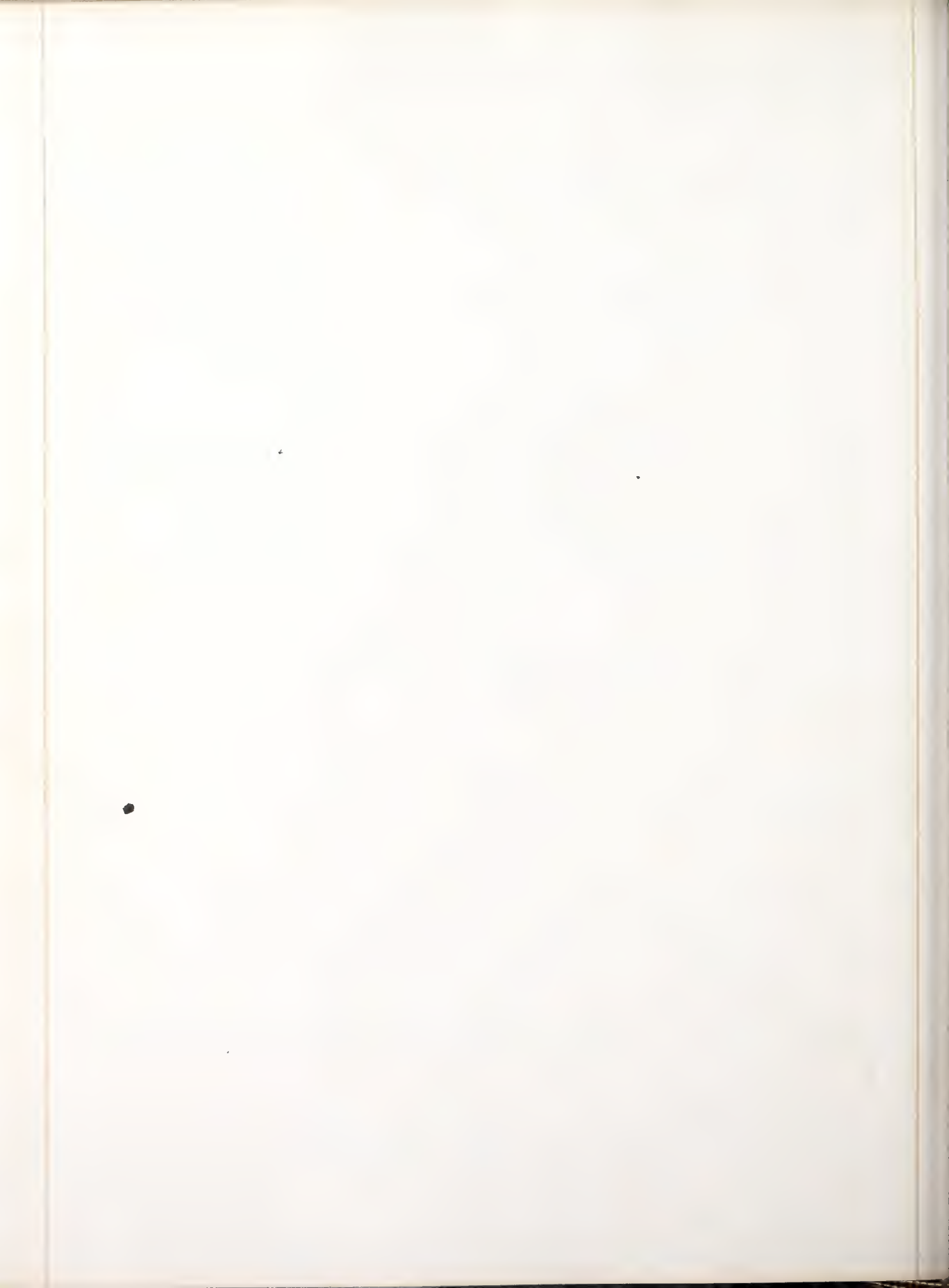
Scarlatina simplex requires but little treatment—A dose of the Sulphate of Magnesia, or of Rhubarb and Calined Magnesia, with rest, a light diet, and diluent drinks, will generally subdue the disease at once—But the other two forms of this disease, which attacks the patient with great severity, often require the exercise of the best judgment, and greatest skill of the practitioner, to prescribe the proper remedies to rescue the patient from danger and from death—As this disease is generally one of a typhoid character, powerful depleting remedies, such as blood letting and drastic cathartics, are seldom indicated—At times however, it may partake partially



of an inflammatory type, or, it may be complicated with other diseases, so as to require an antiphlogistic course, but unless it participate in such inflammation, or such complication exist, bleeding in my opinion is contraindicated - It has been stated that in the forming stage, an infusion of an ounce of Capsicum in a pint of water, taken in doses of a table spoon full every two hours, has entirely removed the disease, evacuating the bowels at the same time with gentle laxatives - This practice may be proper in the forming stage, and in the latter, or putrid form of the disease, when the powers of the system are prostrated - When however there is much excitement, and the powers of the system seem fully competent to cope with the disease, the Rubricum, although primarily an excitant of the nervous system, would possess so much stimulant power, as to be inadmissible - When the tonsils become inflamed and begin to exude a viscid mucus, and emetic of Speccacuanha, or of Gargalized Antimony and Speccacuanha may be given to make an impression upon the system, and afterwards to remove any offending substance which may have accumulated in the



stomach, to throw out the mucus, which may have collected in the fauces, about the tonsils and larynx, to equalize the circulation, and finally to arouse and assist nature in her recuperative efforts to remove the disease - This should be followed by a dose of Sulphate of Magnesia alone or combined with Senna, which not only removes any foreign or irritating substance in the alimentary canal, but acts as a repellent and counter agent, by unloading the congested capillaries - The treatment when inflammatory symptoms predominate, should be strictly antiphlogistic, but as soon as the disease puts on a putrescent form, we should resort to stimulants and tonics - For this purpose, wine whey, an infusion of *Serpentaria Virginiana* with Carbonate of Ammonia and Camphor, or a combination of Quinine and Capsicum may be used with benefit - Dilute Muriatric Acid, Creasote and other astringent gargles have been highly recommended by some writers, but the best results appear to have followed the use of a gargle composed of Capsicum, diluted Acetic Acid, and Chloride of Sodium - This however cannot always be used, as the patient sometimes complains of it, being too harsh; in such cases the Tincture of



Myrrh and Bi Borate of Soda may be substituted, or an infusion of Sage, Rose leaves, and Quince seeds, the last being a very pleasant and soothing gargle, particularly after the separation of the sloughs - The blood vessels about the throat are loosely connected to the surrounding tissue, and when inflamed, admit of considerable distention, and the Capsicum gargle exerts a powerful influence, by its excitant properties, in inducing a contraction of the over distended vessels, thereby relieving the congestion - It has also a great tendency to remove the viscid mucus which collects many times in very large quantities around the tonsils, fauces and larynx - Blisters to the throat have been recommended by some writers, but others consider them injudicious from their tendency to form indolent sores; occasionally, gangrene is said to have followed their application, and a great part of the integuments in the vicinity of the blister has sloughed away - A more appropriate application perhaps would be a cataplasm of bruised Mustard seed, the Ammoniated liniment, or a thin slice of fat pork, with Capsicum strewed upon its surface; these irritate the skin and thus produce a revulsion of the disease - A sinapized pediluvium may be

used also in the commencement of the disease as a
revellent - If there should be cough with high fever,
a solution of Emetic tartar may be used with advan-
tage, as an ^{expectorant}, aiterative, and diaphoretic - Sometimes it
would be better to combine a little Camphor with it
to prevent its nauseating effects, and to determine its
action to the skin ~~and the~~ ^{the} ~~fever~~ ^{very high} ~~in~~
which case, if it produce slight nausea, it will have a
greater tendency to relax the blood vessels and to act
as a sedative - The Camphorated tincture of Opium
may be added to qualify it, and to promote its consti-
tutional effects; or, the Opium may be used separately,
to check its laxative tendency - The sweet Spirits of
Sitre may be used alternately with the Antimony as
a refrigerant and diuretic - The heat and burning
of the skin may be allayed, by sponging the body
with tepid, and sometimes where the heat is very great
with cold water, or the temperature of the water may
be gradually diminished, which is, perhaps, the better
mode of application - The bowels should be kept
soluble throughout the disease, but not relaxed, per-
- Small doses of Sulphate of Magnesia when there is
considerable fever seem to be most appropriate, and

if there be but little fever, any easy, mild cathartic answers every purpose, such as Rhubarb and Magnesia or Castor Oil; and I have no doubt that the oedematous swellings of the joints, which so often follow this disease, may generally be prevented, or in a great measure averted, by a strict attention to the bowels, not only in the incipient, but also in the latter stages of the disease - In case delirium should attack the patient, a mustard cataplasm to the back part of the neck, generally affords great relief - Diarrhoea sometimes attacks the system already weakened by the severity of the disease, and, unless speedily averted, the patient sinks - When this happens, some very irritating may be strongly suspected in the alimentary canal - A small dose of some gentle cathartic will generally remove the irritation, and the diarrhoea then subsides, but should it continue, a few drops of Laudanum, or an enema of Starch and Laudanum will often allay the irritation - But if the relaxed state of the bowels should originate from a morbid secretion of bile into the intestines, which may be known by the dark colored stools, a grain or two of the Blue pill may be given every four, six,

or eight hours, according to the age and circumstances of the patient; or a combination of Calomel and Opium may be given for the same purpose, and, at the same intervals, and if the symptoms are very urgent, the Acetate of Lead may be added - The patient should be restricted to a light diet, and diluent drinks - The drinks should be cooling, as Bi- Carbonate-Potassa, Lemonade, cold Water and the like - Mucilaginous drinks are many times beneficial as, ~~bread~~ Coffee, an infusion of the bark of Slippery Elm, Flax seed, or of the pith of Sassafras - The ear often becomes inflamed and discharges, at first a watery fluid, afterward a thicker matter exudes - In the last case, the ear may be syringed with warm water and Castile Soap, after which, two or three drops of sweet Oil and Tincture of Myrrh, or the Myrrh alone may be dropped into the ear twice a day, and the parts about the ear kept as clean as possible, to prevent excoriation of the skin - As the glands of the neck frequently enlarge, and inflame, an attempt should be made to produce a termination by resolution, by applying a cloth wet with vinegar and carbonate of sodium, the solution

Liniment when there is but little heat or inflammation in the tumor, and no swelling, and the swelling lead to the swollen gland; but if the swelling continues to increase and it is found that suppuration must inevitably follow, it may be promoted by the application of emollient poultices, such as bread and milk, flax seed, Slippery Elm, or any other that will retain heat and moisture—As soon as fluctuation is perceptible, it should be opened and dressed with simple dressings, if the opening should seem inclined to close, it may be prevented by introducing a piece of lint, or which is better perhaps, a piece of tape besmeared with simple cerate, between the lips of the incision—If Ascites or Anasarca supervene, Glydragogue cathartics should be given three or four times a week, such as Jalap and Bi-Gart-Potassa, or, Calomel and Jalap—Jalapa and tartar in solution may be used as a common drink, it being laxative and diuretic—Small doses of Calomel and Citrat. of Potash may prove beneficial also, by their laxative and diuretic properties, but the best time for this purpose is a combination of Squills, Digitalis and Calomel,

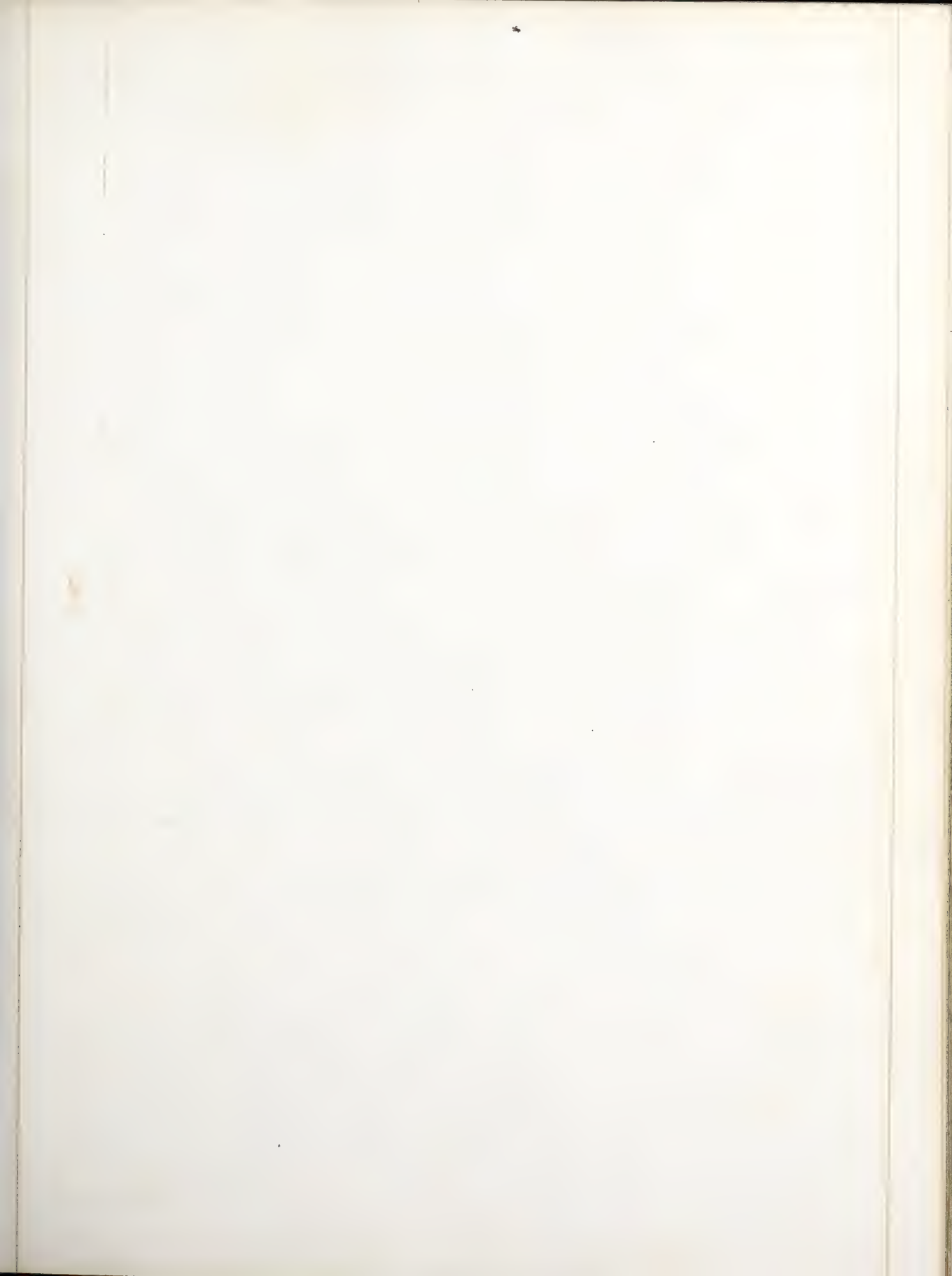
given three or four times a day, this may be aided by friction and bandaging, if the patient can bear it, yet sometimes after every effort on the part of the physician to remove the disease and avert death, he has the misfortune to see his patient suddenly assume a ghastly appearance, a difficulty of respiration ensues, and he dies with little or no relief from medicine - If in the progress of the disease, the tongue becomes dry, and the discharges from the bowels assume a dark or sanguine appearance, Calomel and Ipecacuanha may be given in alternative doses, to restore the secretions to their normal condition - If no unfavorable symptoms occur before the eighth or ninth day, it generally terminates favorably, though a dropsical effusion, the result of Scarlatina, may happen even as late as the twenty fifth day from the decline of the eruption, and perhaps no skill of the physician can save the patient from death - When the disease begins to subside, and the febrile symptoms to abate, the pulse becomes more full and strong, is not so rapid, the cuticle desquamates in the form of little branny scales

the skin becomes moist, the thirst is more suppres-
sible, the fur upon the tongue begins to cleave off
and presents the surface with its natural color, but
many times the patient is left in a low debilitated
condition, with little or no appetite, and unable to
make any exertion, without much weariness—Under
these circumstances, an infusion of the *Aristolochia*
Serpentaria, Chamomile Flowers, or Orange peel, will
generally restore the stomach to its proper tone, and
consequently the appetite, or if these are inefficient,
the Salicine might perhaps prove beneficial—Food
will then be properly digested, affording nutriment
and strength to the whole system—A relapse is
sometimes brought on, by allowing the patient
to overload the stomach, or to take indigestible
food before the stomach has sufficiently recovered
its tone—It should be remembered that the func-
tion of every organ in the body has been more
or less deranged, nor is it very surprising, that
the great central organ of sympathetic influence
should be particularly affected, and therefore
unable to perform its proper office, with its wonted
vigor—The safest mode then unquestionably is, to allow

the patient no other than a light, digestible diet for a few days after the febrile symptoms have subsided - The apartment in which the patient is confined should be kept well ventilated through the whole course of the disease, and the practitioner should never feel that he has performed his whole duty, or that he has accomplished all in his power, until he has inspired his patient, and the attendants, with all the confidence and hope, that the circumstances of his case will allow - Cheerfulness, in a great measure, keeps up a play of harmony between organs of the body while in health, and unquestionably tends to bring about healthy action, in disease - Let then, the physician who would command success in this, or in other diseases, remember that cheerfulness is often of as much value, as the most potent medicines, and that a gloomy and dejected countenance will frequently counteract the good effects of the most judicious prescriptions

Alfred W. Cady







X.

Dissertation
on
Menstruation.

V 74
Elias Franklin Coats,
Of Plainfield Connecticut.
Candidate for the Degree of Doctor in Medicine.

Menstruation

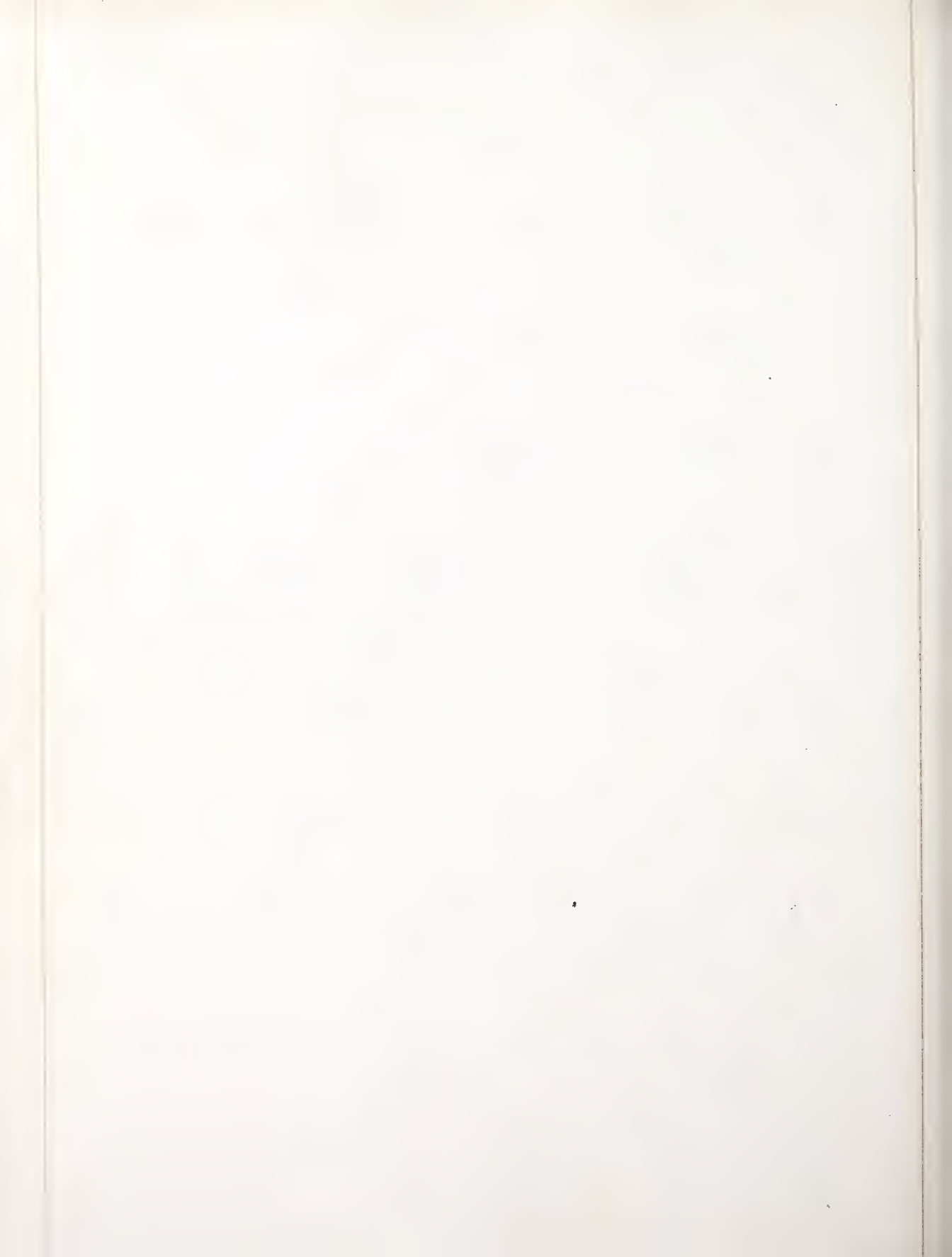
When we view but for a moment the structure of the sexes and behold their external appearance, we are led to conclude that each was destined for a different object. We behold the man formed for agility and strength.

His bones, the frame and foundation, are large and firm, his muscles well developed, his face of a noble aspect and ruddy hue, the shoulders broad, the hips narrow and small, the thighs in a direct line with the body; while the female form is delicate, the shoulders narrow, the haunches broad, the thighs set more obliquely; of course the knees approach nearer each other, and they walk with a delicacy which we acknowledge as one of their beauties. The female pelvis is composed of bones which are shallow, wide and more slender than those of the male; which clearly show the object for which they were particularly



destined. The little boy with his gay and playful air treats the opposite sex with the same, or nearly the same harshness and severity as his own; he has not yet become possessed of those finer feelings which will characterize his maturer years, and teach him to love and cherish those of the weaker sex. The little girl, though of a milder temper, does not develop those graces which are to adorn her womanhood, until the age of puberty brings them forth, polished with a lustre which we could hardly expect from a work of ages. The outward form now, puts on its beauty: the voice changes though not so perceptibly as in the male; the face acquires a fairness and fullness which render it pleasing; the eyes beam with intelligence; the breasts increase; the genital system which in a measure has been dormant, now begins to be enlarged being suddenly prepared for the duties which nature has assigned it: in short, the whole body is now expanded into the "fullness of feminine beauty."

But it is a function which is established at the period when these changes occur, that we



are to consider on this occasion. This is the flow of a sanguineous fluid from the uterus, occurring periodically, and on which the health and happiness of the individual in a great measure depends. Conflicting have been the opinions of different physiologists in relation to the nature of this fluid. Some have contended that it is merely blood determined to the uterus by a kind ^{of vessels} at this time peculiar to the system: others contend that it is a regular secretion of the mucous membrane of the uterus which is but just called into action. Arguments in favor of both sides of this question have been brought forward in abundance, and of so ingenious a nature that those who read but one will be led to reject the other. But since the time of Mr. John Hunter, it has been more generally believed to be a secretion, though not universally, as there are some even at the present day who hold to the opposite opinion.

The theory of secretion I am led to believe has sufficient arguments to sustain it, some which I will endeavor to bring forward.

First we shall consider its color as one of the proofs that it is not, as some have supposed, a mere exudation from the lining membrane of the uterus: its natural color being more florid than the venous, and less so than the arterial blood of the system. Its odor is also peculiar being remarkably distinct from the circulating mass: numerous examples of which are brought from the brute creation, which discharge is said to be no less peculiar in its odor than that of the human female. Neither does it coagulate though kept for years, while blood from the system is quickly formed into a clot. It has been found retained in the uterus and vagina for considerable time by an imperforate hymen, or adhesion of the sides of the vagina without coagulating, or having undergone any change except the absorption of its more fluid parts. This last observation was attributed to Mr Hunter as a discovery, and is one of the main arguments in favor of its secretion: though some have supposed, this may be owing to its mixture with mucus, and its slow

percolation through the os-uteri and vagina. For these reasons, although its constituents are nearly the same as those of blood, I am inclined to believe it is a secretion of a peculiar character.

Some authors believe that females may become mothers without having menstruated; while others deny it, and I think have clearly proved that impregnation does not take place until it has appeared, or at least is about to appear. It has been believed that when a colored fluid was not discharged from the vagina, that the uterus had not assumed the menstrual action, and the menses had not appeared: but it has been discovered by practical writers upon this subject, that there is not infrequently a serous discharge for a considerable time before the sanguineous makes its appearance. This serous fluid sometimes continues for a considerable time after the sanguineous has ceased: or if both have entirely ceased, this has been known to return after a series of years, though many times

it is unperceived by the patient herself until her attention is particularly called to the fact. Drives supposes this serous fluid to be the regular Catamenial secretion; an hypothesis which accounts very plausibly for the supposed cases of impregnation before menstruation has taken place. We do not contend that menstruation is a cause of fecundity, but it is a sign, that the uterus has put on a healthy, vigorous action which it is necessary it should have in order that it be impregnated, and this is generally manifested by a healthful, Catamenial discharge. Besides the human species, all the mammiferous animals have at certain periods a discharge from the vagina, which shows the capability of the animal at that time to be impregnated; this is of a serous character, and not the ordinary secretion of the parts, as is evidently shown by its peculiar odor.

This is the last function that is called into action, but the age when it is manifested, differs in different climes, as well as

in different individuals of the same climate. It occurs sooner in those of a sanguine and nervous, than in those of a lymphatic temperament; and in those that are short and of a dark complexion, than in those who are tall with fair complexions. It is also influenced by the health, and by the education the individual may have received. In our own climate the usual time for its appearance is about the fourteenth or sixteenth year; in the polar regions the eighteenth or twentieth; while in the tropical it takes place as early as from eight to ten years of age. This is the age when the female takes the quick step from childish petulance to womanhood, and the whole frame puts on its most perfect beauty. The function of respiration is called into ^{action} as soon as the fetus becomes a child, and is continued with more or less perfection through life: each of the several viscera are soon called to perform their offices and to fill the sphere of usefulness for which nature intended them: the brain becomes the instrument of thought and

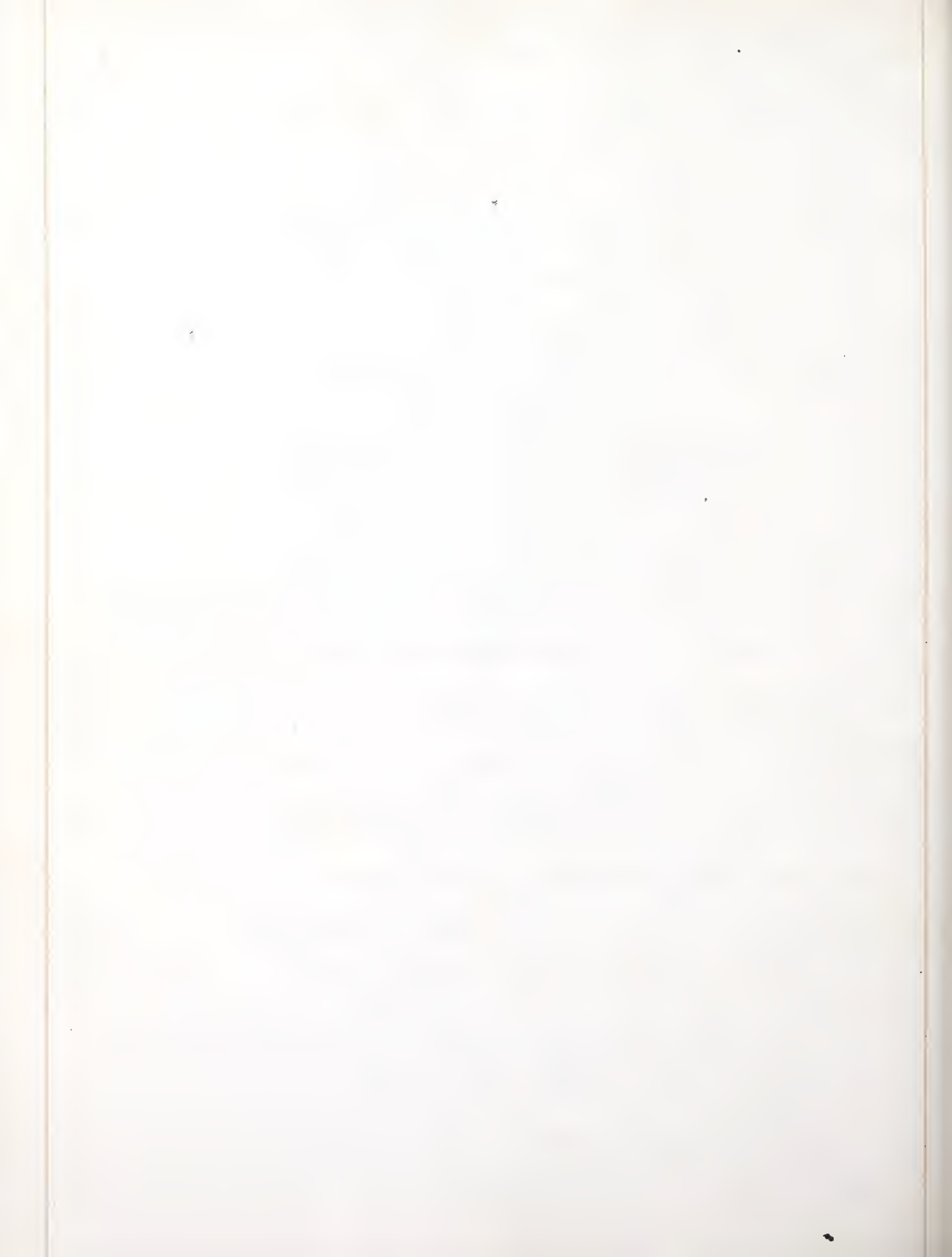
feeling from which nerves emanate to all parts of the body, whereby the senses become apparent in more or less perfection. Thus we see the silent workings of nature in other parts of the system from the dawn of life, and at last the genital system commences its action, and the changes are produced which has been heretofore mentioned: And for what? to show us that the parts are now in a state of sufficient developement, to perform the offices designed them by nature. In this we see her wisdom in prohibiting impregnation from taking place, until every thing is fitted prepared, not only for the nourishment of the fetus, but also for its safe expulsion.

This is not only the last function to be brought into action, but the first to be suppressed. When the system is becoming depressed, and its powers in a measure weakened, the quick eye of nature soon perceives that it is no longer able to propagate its species: then we see the sign of fecundity vanish by degrees, until it entirely disappears, informing the individual that her time of

Childbearing is over, and the little sucklings she may yet care for, are to be others, not her own. This is called the "Critical time in life," and in this climate takes place about the forty-fifth year, being earlier or later according to the time of its commencement.

This is a time filled with horrors to many. They are fearful that some awful disease will then infect the system from which they never expect to be afterwards free. But these are feelings that ought not to harass women in general, as this period of life is not so replete with danger as is usually supposed, but with proper attention to the system, may commonly be passed over, without those fearful changes taking place in the constitution which many imagine must be the almost inevitable consequence. The approach of this period is sometimes so gradual as not to ^{attract} attention, until the diminution in quantity warns the individual, that they are soon to cease to return no more.

The health should be regulated by diet, and exercise in the open air when convenient, although



too hot, damp, or cold an atmosphere should be avoided, as deleterious in its effects. The clothing should be of sufficient warmth, and flannel should be worn next the skin to keep up a due excitement in the cutaneous vessels. The bowels should be regulated by diet, and cleanliness promoted by the warm bath which tends also to increase the cutaneous circulation. But there may be cases where medicine will be proper, in the administration of which, we are to be governed by the state of the system. Powerful purges should not generally be given, but cooling and gentle aperients, and, if there be giddiness or pain in the back, occasional bloodletting will be required. Moderate exercise should be recommended, but stimulants with all unnecessary causes of irritation, as improper exercise, high seasoned meats, spices, and stimulating medicines should be avoided. But when there is a predisposition to any disease in the constitution, especially in the uterus, as hæmorrhage, cancer or polypus, it may at this period make more rapid progress: in many cases however new vigor

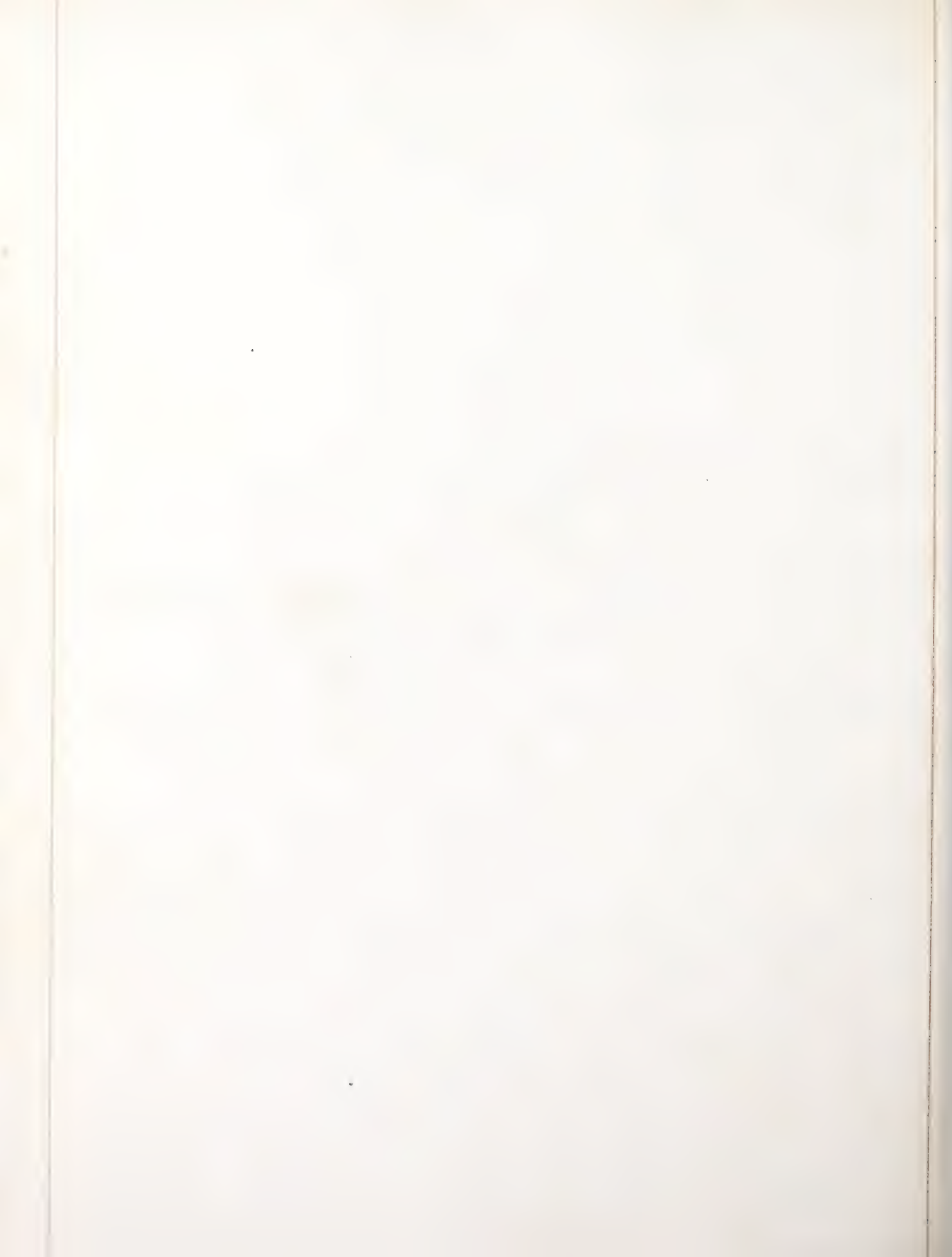
sums to be acquired in the change, and the woman freed from the cares and anxieties of childbearing, becomes corpulent.

The exact quantity evacuated at each menstrual period is not certainly known. but agreeable to the most accurate observations, it is probably from four to six ounces and about that number of days in its continuance. It is longer in duration in the inhabitants of Cities, that lead indolent lives, and in delicate and nervous constitutions; than in those of the country, leading active lives and of robust constitutions.

It has been ascertained by De Boismont of Paris, that it more usually occurs in women engaged in laborious occupations during the day, in the delicate, and feeble during the night, and in the middling classes during both day and night. The intervals between the periods are not always the same in different individuals. They may vary from twenty to forty days, but these may be regarded as the extremes, and there are cases occurring at every intermediate period: yet the usual interval is about

twenty-eight or thirty days. Why this discharge should recur at stated periods with such regularity, as it usually does has never been satisfactorily ascertained.

It has previously been mentioned, ^{and} this secretion is an indication of capability for conception. Hence it might a priori be expected, that when impregnation has once taken place, this sign will vanish which is usually the fact; although cases are on record, in which women have menstruated during the whole period of gestation, and that too without apparent ^{disturbance} to the fetus. Neither does it generally return while the child is nursing, or even if does return as is sometimes the case, the milk is of an inferior quality and unfit for the nourishment of the child, or is spontaneously suppressed: but when the child ceases to draw nourishment from the mother, this secretion is again resumed, to return at stated periods with its wonted regularity. But it is far from being always regular. Like the other functions of the system, it is prone to frequent derangement, and it will be our province to



detail, some of the morbid changes to which it is subject

Amenorrhœa — If the ovaries are wanting from any cause, amenorrhœa is the consequence: as menstruation has been found to depend on periodical changes in the ovary, and autopsies have shown evidences of the rupture of an ovarian vesicle. Amenorrhœa may take place from various causes. The menses may be retained beyond their usual time, and the body be in perfect health. In this case, there will generally be an absence of all the external signs that characterize the age of puberty, yet the parents or friends particularly concerned, are exceedingly anxious about the female when the usual age arrives, let her general health be in whatever state it may; this however is entirely unnecessary, as the system has not yet become prepared for it, and it would be unjust under these circumstances to subject her to any kind of treatment

In other cases, the general health may be deranged from various causes, among which, may



be retention of the discharge itself. Here the external signs of puberty are generally present: there is a sensation of fullness or bearing down in the pelvis, pain in the back, hips, loins and abdomen, particularly in the region of the uterus, this occurring periodically, and sometimes with a discharge from the vagina or uterus resembling leucorrhœa. Here if there is want of action in the uterine vessels, such stimulants as act particularly on that organ will be indicated, and will generally bring about the desired result. But if the retention arise from constitutional disturbance, this will need our attention, the more particular treatment of which will be given hereafter.

They may not only be retained beyond their usual time, but may, after having once flowed with the most perfect regularity, be suddenly or gradually suppressed. They may be interrupted for two or three ^{months} without the general health being seriously impaired, and not unfrequently receiving but little attention from the patient herself, until the general health

sympathizes with the derangement of function.
This interruption may take place from various
causes, as from cold, fatigue or inactivity, mental
emotions, bad diet, or change of residence from the
country to a large city: or from local disease or
constitutional disturbance as of the ovary, some
part or all of the glandular system, of the
lungs, heart or uterus. Diseases of the nervous
system, dropsy of some part, repeated abortion,
or excess in venery.

The usual symptoms are pain in the back
and loins, extending to the groin, a feeling of
fullness or uneasiness in the uterus, edema
of the lower extremities, headache, costiveness with
dyspeptic and hysterical symptoms, occasional
epistaxis or vicarious menstruation, and vari-
ous other symptoms all of which may vary
in different cases. In prescribing for this as
in all other cases, we are to pay strict atten-
tion to the existing state of the system, re-
moving the cause when it can be ascertained,
commencing with laxatives, diluents, diaphoret-
ics and warmth externally applied if from

cold, or if from mental emotions. using various treatment suited to the particular case, with such other remedies as may be necessary to combat particular symptoms. If from local disease as of the liver for instance, remedies for this particular case are to be used of which mercurials will constitute our chief dependence.

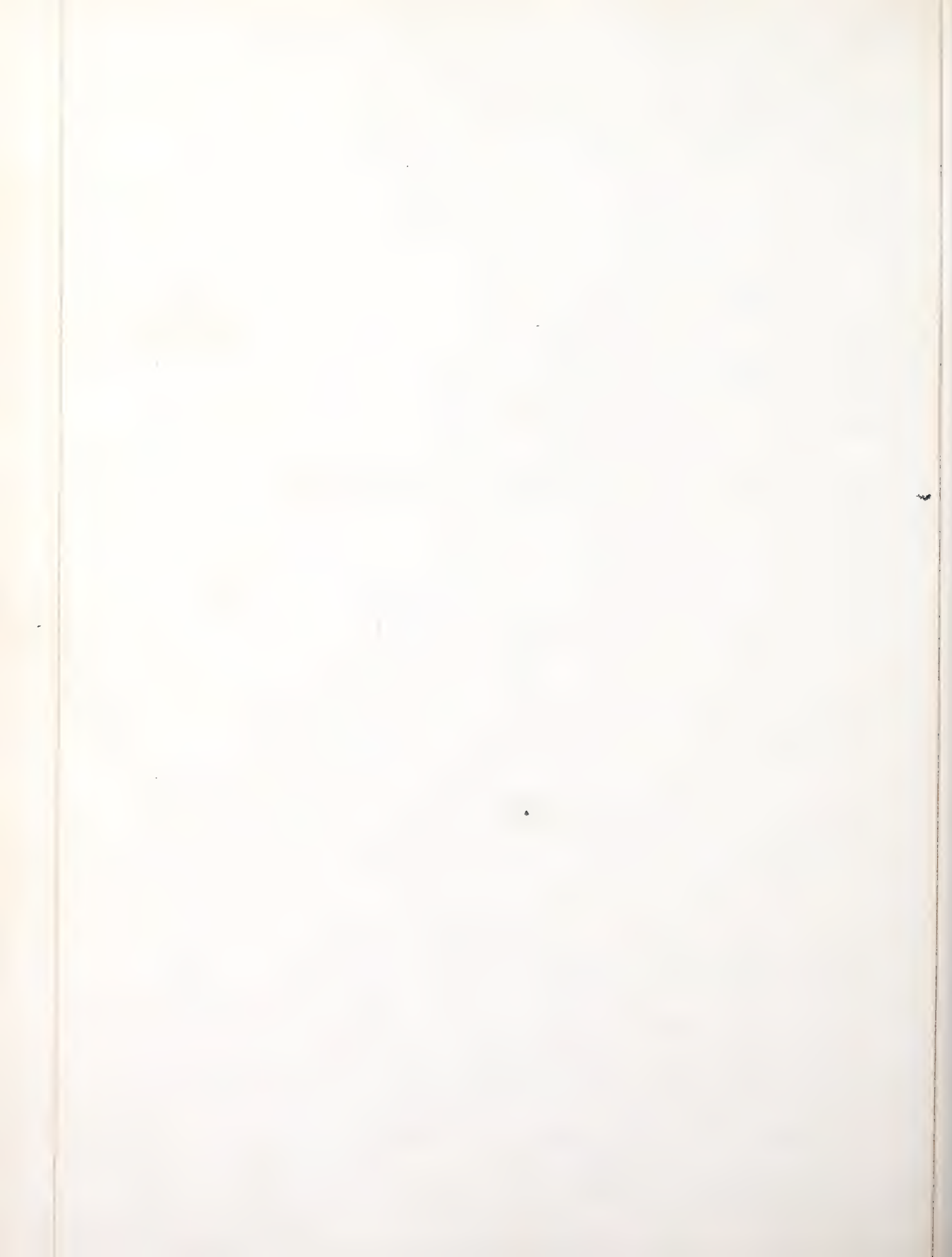
The circulation is generally more or less affected, and there may be symptoms of anæmia, as a small, slow and feeble pulse, or frequent and almost imperceptible, paleness of the integuments generally, and of the mucous membrane joining the skin, showing the want of blood in the superficial vessels, or they may be turgid with blood and of a livid color. loss of appetite. nausea and vomiting, sometimes constipation, with urine clear and limpid: in this case the invigorating and cordial plan of treatment is to be recommended, using when the stomach is foul, an emetic of ipecacuanha, in other cases, laxatives and perhaps the bitter-purgatives. moderate exercise, a nourishing diet of animal food, wine &c. sea-bathing, pure air,

cheerful company and amusement, the flesh-brush
and if cold weather flannel should be worn next
the skin. stimulating or anodyne injections ac-
cording to circumstances, the Chalybeates, peruvian-
bark, most of the bitters and stimulants, the
bitter-tonics, and, in short, all the remedies
that invigorate the system may be used, ac-
cording to the circumstances of each particular
case

But when the symptoms of polycæmia exist:
as hot skin, fullness and frequency of the pulse,
flushing of the face, headache, irregular pains,
tongue loaded with fur, we are to use antiphro-
gistic remedies, as bleeding from the arm, leech-
ing or cups over the uterine or lumbar regions,
warm fomentations or the hip-bath, a light
farinaceous diet, saline or aloetic cathartics,
rubefacients and perhaps blisters, exertions
should be avoided, and mental excitement
allayed, taking care as before to regulate
the particular remedies, according to the
symptoms of each particular case
When the system is brought to a healthy,

condition - says Gregory - menstruation which is a healthy action, will in most cases naturally follow. But when the symptoms of plethora are overcome, if the discharge does not take place, emenagogues, as tinct. of Guaiacum. oil of savin. Madder. tinct. of Cantharides. oil of turpentine. ergot. Electricity and many others may be used. This class of remedies however is not so much esteemed as formerly, but may be used when amenorrhoea depends on want of action in the uterine vessels, recollecting that they are no longer to be regarded as specifics in all forms of the disease, and while in some cases they may prove useful in determining the action to the uterus, there are others, in which they would prove decidedly injurious. When active emenagogues are resorted to, they are only to be given a short time before the expected paroxysm and suspended during the intervals as their action will prove more efficient when combined with the operations of nature.

Some never menstruate regularly and



suffer no inconvenience therefrom, and those who do suffer from such irregularities, or in whom retention proves obstinate, are usually of a scrupulous habit, and consumption is frequently the fatal termination. The general health in many young girls may be exceedingly delicate, but when this discharge has once taken place, all their former ailments will frequently be removed, and they will be restored to robust health.

Menorrhagia - The menses may be regular or irregular as to time, but too abundant in quantity. The discharge may be purely menstrual, or may partake of the hemorrhagic character which may be known from its being coagulable. The predisposing causes may be any thing that tends to relax the system, as anger, fear, heated rooms, mechanical irritations, or excess in venery; and the exciting causes, any thing that diminishes the consistence of the blood and determines to the part. It may occur in all states of the system, either

from organic disease, or from a peculiar state of the parts without organic disease. If from organic disease it will be hemorrhagic, and will generally commence with a sudden gush, being frequently copious; leaving the patient pale and almost exanguious, and if it continues for considerable time, the woman becomes pale, feeble and emaciated. Leucorrhœa frequently attends. the digestive organs are impaired, and the whole system becomes involved. If the discharge is purely menstrual, the danger is not to be estimated by the quantity discharged, but by the effect produced, for in this as in amenorrhœa, no medicine should be given unless indicated by the state of the system, as menstruation is subject to irregularities in time and quantity, while the system may remain in perfect health.

In this we have many of the symptoms of amenorrhœa, as pain in the back, thighs and loins, a bearing down in the pelvis, mucous discharges, flatulence, loss of appetite and weakness which is usually greater in this than in

the former disease, and in many cases the symptoms are so nearly similar that the two cannot be distinguished without direct inquiry.

In the treatment we are to be governed by general principles, and the remedies required will generally be indicated by the existing state of the system. If it is hemorrhage, we are to treat it as such, keeping the patient in a horizontal posture and at perfect rest, on a hard in preference to a soft bed, with the hips raised, giving acetate of lead, opium and cool drinks with astringent and anodyne injections, applying cold water & vinegar to the lumbar and sacral regions, and in excessive cases the tampon. But if purely menstrual and the symptoms of anaemia are present, we are to treat as previously recommended, excepting that particular emmenagogues would not here be proper, but astringents and sedatives should be used in their stead.

The friends almost invariably consider the disease as one of pure debility. This symptom may or may not be present, therefore

we should not in every case load the system with stimulants and tonics regardless of its state, but should recollect, that ^{the} kind of practice has been the bane of thousands, and will ever be followed by injurious effects. The cry of debility or of any thing else should never deter us from doing our duty, and prescribing such remedies as common sense and sound judgement should dictate. We are not to subject our patient to danger on account of the preconceived opinions of friends, or the prescriptions of the multitude who may have gratuitously given their advice; though in most cases where their opinions can be gratified without danger it is advisable.

Dysmenorrhœa - Menstruation may be regular as to time and quantity, but accompanied with pain during the period. This is a disease in which great suffering is many times endured by the patient, and frequently one of great obstinacy, although

it may be treated with the most skillful means. The menstrual period usually commences with a slight discharge which is soon arrested, when pains come on frequently resembling the pains of labor, but is relieved when the discharge takes place. There is generally, though not always, a membranous substance of larger or small size, or small coagula discharged. It is believed that nothing with certainty is known as to the formation of this membrane, but it is thought to be some fault in the secretory process of the uterus itself. It may occur at any time between the fifteenth and forty-fifth year, but more frequently in the young. Authors differ as to its destroying the power of conception, but it is generally believed that impregnation will not take place especially if a decidua is formed.

The causes of this disease may be any thing that interferes with the process, as mental emotions, cold or too much

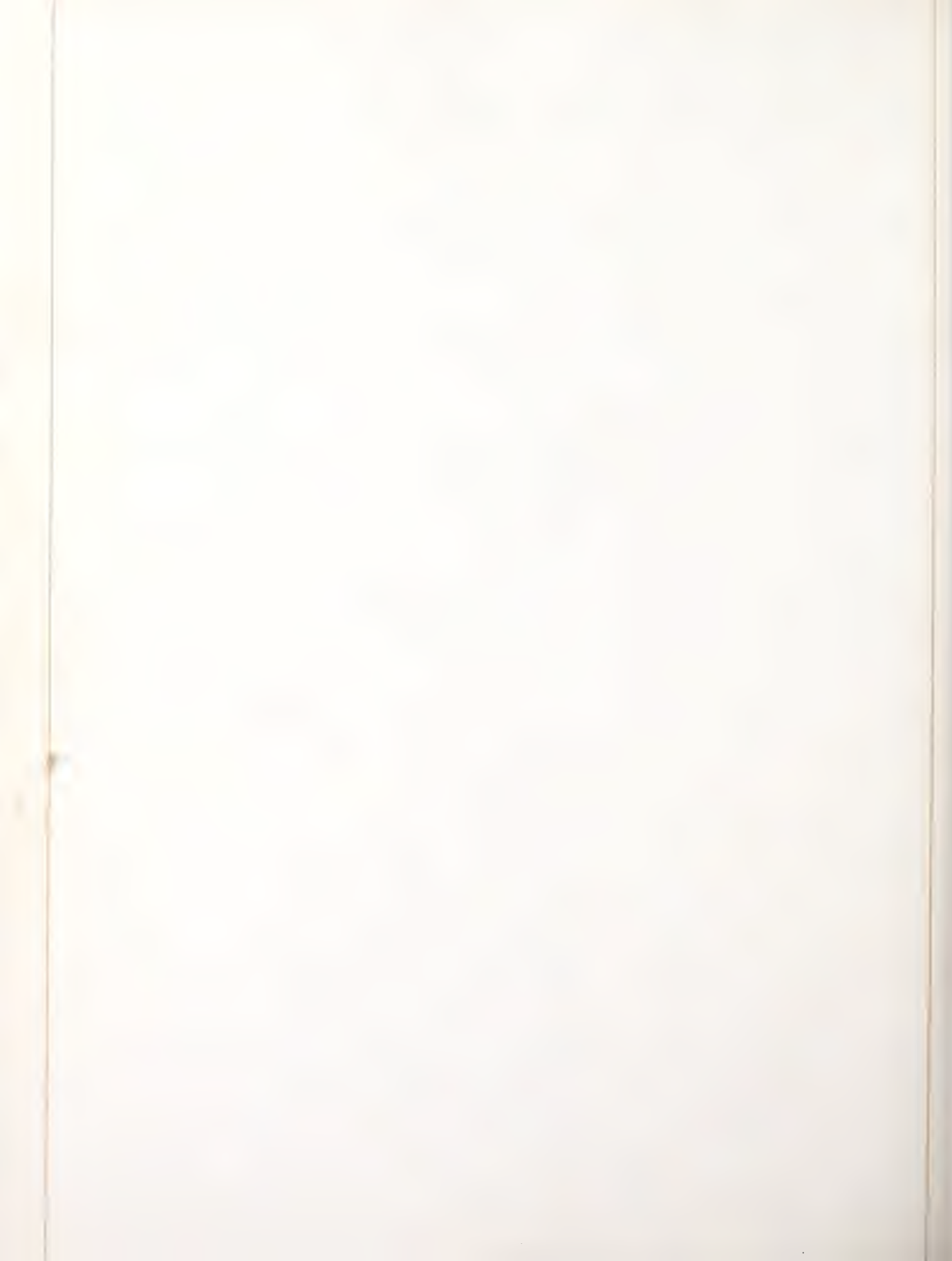
bodily exercise; and the symptoms accompanying the severe pains are various, and perhaps disorder of the digestive apparatus is one ~~one~~ of the most common.

In the treatment of this distressing disease, the principles heretofore laid down should govern us, overcoming entonic or atonic action if present by the usual means, removing the pain as effectually as possible by the administration of narcotics, of which opium, Camphor, Stramonium and Hyoscyamus stand at the head and regulating the system and uterus in particular, by stimulants, narcotics or such other remedies as the judgement as the practitioner may direct. For this latter purpose the volatile tinct of Guaiacum has been found successful by some, while the tinct of Cantharides, extract of Cicuta or Hyoscyamus have been the hobbies of others.

If by appropriate remedies the woman be enabled to pass one menstrual period without suffering, and be fortunate



enough to become impregnated. the morbid
predisposition may, not infrequently be broken
up: but in spite of all our endeavors
we are many times obliged to see our pa-
tient suffer for a great length of time, and
not have it in our power to cure her: yet
where we cannot cure, we may in most ca-
ses palliate; for which purpose the narcotics,
sudorifics, the hip-bath, the vapor of warm
water have been recommended. We are in
all cases to pay strict attention to the ex-
isting state of the system, removing the
cause when it can be ascertained, remem-
bering that remedies useful in one diath-
esis may be decidedly injurious in another,
which imposes upon the practitioner the
exercise of his better judgement in their
administration. The day of specifics is,
fast passing away, and therapeutics is
now being based upon pathology, so that
the Science of Medicine, if well under-
stood, will soon arrive, nearer, at least,
that state of elevation which its importance



demandz. We are not to prescribe a remedy
for a particular disease because our prede-
cessors prescribed it, but we are to carefully
examine the symptoms, all things being taken
into consideration, so as, if possible, to under-
stand the pathology, in which case if our
Materia Medica be well understood, the
remedy will generally suggest itself: where
as if the pathology be not first ascertain-
ed, our practice must be founded on em-
piricism, and if so, what better are we
than they

E Franklin Coats

XI.

The
Valedictory Address.

By
Robert Crane,
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Candidate for the Degree of Doctor in Medicine.

One of the most constant & admirable features in the history of every science, is exhibited in its progressive tendency under obstacles, & in those combining circumstances which may be considered as effective causes of its successive developments. Viewing the brilliant results of human industry in the mass, the achievements of intellectual ^{greatness} as they stand in all their imposing characters, we may forget that they are the manifestations of universal genius; the aggregate contributions from the philosophy of ages. This is not solely the production of great events, great minds, nor of formal & punctilious erudition, but from sources as various & diverse as the objects of its care. It has its infancy, & its life is uniformly of laborious but invincible progress.

The increase of pure philosophy is indeed a growth of accretion, but there exists a power in its constitution, that rejects the varied forms of incongruous matter with which it is forced in contact, till it ultimately assumes its specific character—a pure & brilliant gem.

While these characteristics are visible in the progress of all human knowledge, they are particularly manifest in the History of Medicine. Its infant existence, if we may judge from its imperfect records, was vague & ineffective, being, in the words of Bacon; "more professed than labored, & yet more labored than advanced; the labor having been rather in a circle than in progression."

Although this its primal condition has elicited severe censure, it was certainly embarrassed on every hand by intrinsic and incidental difficulties of no ordinary magnitude. Its origin was under the severe auspices of energetic poverty; as little the creation of a studied, premeditating ambition, as of the tutelar genius of its sister sciences: it still groped its way through the darkest intellectual gloom, forever living on those imperative necessities which called to life its functions.

It needed the aid of experimental wisdom, & of that knowledge which is tardily wrung from the hands of nature, but received

only the thickening miasma that crowded upon the pathway of death.

So from its very nature, its agency in promoting individual happiness, it was subjected to the menial control & bias of those passions, sensibilities, & even religious sentiments which swayed the habits of individual mind. So closely indeed was it associated with ideas of religion, that remedial efficacy was accredited to the fabulous divinities of ancient worship, & divine honors were in many instances, instituted to the memory of the primitive Physicians; while the Egyptians, Greeks, & Romans, had each their peculiar medical deities with appropriate temples dedicated to their worship.

Ignorance of the philosophy of disease gave origin to many superstitions, belief in magic & incantations, while the practice was uniformly in perfect harmony with such ideas & instruments.

But from all these Medicines itself, has emerged, & now rests securely on the basis of a strict, critical philosophy, that must

accompany its onward progress, to test the purity of its principles, & the dignity of its life.

Regarding the present eminence of Medicine as a source of just-felicitation, it will scarcely be pleasing to trace its slow advancements under darkness & despotism; for each has wrought deeds of honor to its merit that charity would fain forget.

But if such a review can detect any causes of embarrassment which may still be operative in any degree, or establish permanent & salutary maxims to guide future practice & investigation, it is both fit, and serviceable.

We will then proceed to notice some of those more palpable causes, which have operated at different periods to retard the progress of medical science, & thus impair its usefulness and vigor.

Among these it is proper to mention, An
extraneous Defiance to old & unsettled
Doctrines.

So far as the doctrines of antiquity are available as standard principles, to be

cherished as the choice gleaming of industrious mind, & to remain as the basis of a firm and enduring superstructure, they constitute the richest benefactions. They stand as the everlasting representations of those successive eras which mark the conquests of thought towards its highest destiny. Let none therefore discard the learned mind of antiquity, for well did it husband its heritage, & viewing it with the discriminating judgment of another age, it reveals its legitimate agency in the achievements of human knowledge.

Great minds there were; they shone forth as distinct and scattered luminaries at which the nations looked to fill their slender arms of light. Their life was truly imposing, for it triumphed with a stronger but mighty power, while the community of mind was transported into an incalculable satisfaction.

Could there be independent inquiry, original untiring thought, that gathered new life and energy with the prospect of

its higher revelations, when the philosopher was present but regulated on the fortunes of their birthright,? It was impossible: there stood a fixed barrier, in the way of future progress, when few cared for intellectual ambition.

The philosopher of antiquity was considered as the perpetual thinker of successive ages, the hallowed depositary of the great intellectual storehouse — a precarious reliance which gave origin to that monopoly of thought, that disposition of genius, which patiently held the world at arms length, & sported it as a plaything.

This excessive deference to bold & leading authorities was by no means confined to the particular age of their origin, but the great mass of mind suffered itself to be modelled & fashioned after some antiquated pattern dimly described in a distant era, itself satisfied to continue its time worn vestments, unthinking, unreacting — dead. Labor was directed to nothing in particular, but principally to the elucidation & refinement of isolated opinions, which either

failed through its own elements of gradual decay, or was lopped off as a foul excrescence to give place to some other growth.

The progress of medical sciences has been retarded by Governmental Influence.

This in its character & effects has been as various and fickle as the power that wielded it; sometimes extending its powerful aid in the cause of letters, and again so debased as to neglect and confine the struggling effort of knowledge and benevolence.

Regarding the condition of society in the earlier ages, its trembling allegiance to some form of dogmatism & absolute despotism, it is seen how intimately verile & restrained were all the effort of genius. If truth was promulgated adverse to established opinion, how often did its sanguine author suffer the hasty penalty of its monstrous innovation.

From such exhibitions it might appear a reasonable proposition that truth itself was extremely improbable. It was watched and deprecated as something superfluous,

or directly hostile to civil & domestic interest,
such cautious prejudice was long that, angrily
yielded to the superior & mighty eloquence of
its foe.

Indeed a distinguished French author of the
present century, who took upon himself the by
no means enviable responsibility of writing a
History of Medicine; in speaking of the discov-
ery of the circulation of the blood, remarks
with characteristic nonchalance, that the affair
was very neat & curious, but in his opinion
was a sad thing for men & medicine.

The motives that instigated so many
unholy suspicions are certainly difficult, of analysis.
It would seem that the ruling power after
assuming itself in the full prerogative of deciding
all questions of science & astrology, being
adequate to anything but its own functions.

If science obsequiously requested to advance,
it was replied that it was not practicable
till some man down in Rome or Ephesus
had prepared himself for such a movement,
which was — never.

To show that such umpirage was assumed from motives of sheer kindness & benevolence, it was exercised only in case of momentous emergencies, the efforts of genius being thus abundantly patronized & brought to an imposing standard of excellence.

It happened in a period of Rome that there was an alarming distillation of an educated medic. The practice of meddling with diseases was in the hands of nervous crones & day labourers, who excoriated the robust Romans till they fairly scowled in detestation. The field became so inviting as to attract thither many learned Greek Physicians, while Mistress Rome happy to indulge all her necessities, waived all old scruples & rigid etiquette in deference to the faculty. Among these came a Surgeon named Archagathus, whose name was in many respects a type of his admirable character.

The Senate, impressed with the necessity of such reformers, readily granted him the freedom of the city, & he being like many of his modern brethren; not above fortune

they purchased for his accommodation an "Office" on the Apulian way - directing him to practice according to his superior discretion, but tacitly retaining the liberty of deciding whether it was discretion or not.

It was very generally known that the new canon from Greece did not act as the Roman Cabbalists. In the words of Thiry he was assigned for his "Scientia Secundi", which was, that his surgical operations caused pain & no man could endure that, but in the cause of Rome. So the Senate considered the matter in strict forms of medical judicature, & decided very naturally that he should be banished, & so he was.

Similar, in a later age was the fate of Vesalius, whose name opens a new era in the study of Life. Possessing a strong, analytical mind, he took a wide & liberal survey of his favorite sciences with a determination to eradicate its, antiquated, defects - an innovation in the cause of truth which led to those brilliant discoveries, which remain as faithful monuments of his genius.

while his contemporaries were yet fondly & idly
swayed by the mouldy doctrines of their model
author.

His fame soon pervaded the
continent & chairs were assigned him in the famous
Schools of Padua, Pisa, & Bologna. Then came
his personal honor -; the royal favor with its
accustomed alacrity, was extended when least
needed & at the age of 30 we find ^{him} residing at
the imperial court of Charles V.

While enjoying this eminent station a strange
circumstance occurred - a conceived informality
of practice, which came within the purview of the
inquisitorial assize; & as a substitute for death
he was excommunicated. The vessel carrying him
was wrecked on the coast of Fant, where he died,
& no man knew his sepulchre.

Among other forms of superrogation, the
civil power has frequently constituted itself
into a body politic, with the sole right of seating
all Klippers as any other instruments directed
to the public weal. How ray mens volus was
driven down by force of the matter & spirit of the
law - surely a condensation of pious and

imperial courts to the minor duties of the public nursery, which sat facetiously odd upon their peculiar dignity.

Not such unrelenting proscription, such neglect and captiveness, was by no means universal; there are many brilliant examples where the profession was honored & protected by the benignity & beneficence of the higher powers. & there clearly mark those shining periods, when medical science humbly advanced towards its proper elevation & usefulness.

The Salernitan School in the Neapolitan territory maintained a distinguished rank for 3 centuries through the judicious privileges & regulations granted it by Emperor Frederick II.

The whole management in detail was so admirably fitted to the true wants of such an institution that, it sent forth well educated & disciplined scholars, whose learning and influence was felt and acknowledged throughout all Europe; so that Petrarch styled it, as it really was, the fountain-head of that, &c.

III. Medical Science has suffered by its attachment to the prevailing Philosophy.

Perhaps it has been more or less associated with every form of philosophism and system, which genius and sophistry have devised.

Disregarding the idea that the laws and phenomena of vitality are mostly peculiar & specific, it seems to have been a fixed passion to associate them with the properties of something more obvious & sensible - making absurd and mischievous application of those principles in natural sciences which are the most remotely connected with it. The effect, was, that it, lost its original distinctive qualities & function, & was dragged down to the most menial servitude.

It is not surprising that, certain principles of philosophy which equally concern the properties and motions of matter in any form organic & inorganic, should have entered largely into the investigations of some Physiologists, & that hurried enthusiasm should have magnified them beyond their just importance.

But, in addition to this the whole system of the healing art, its principles & practice were consigned over to the guiding genius wrought by the firm strong identity of the substance that was dignified with the name of Philosophy. Thus, instead of condescending to the urgent and familiar duties of its office, it is found disputing in the halls of the Academies or holding communication with the orbs.

It need hardly be said that such abstractions were radically & practically mischievous, detracting from the importance of plain rational truths & approximating the science itself to the spirit of unprofitable speculation.

Besides, it has been intimately associated with many natural sciences.

To all these it has certain reciprocal relations, but still fixed & limited.

Its principles and processes are to be illustrated and explained in a certain degree by these, but can not be blended & confounded with them without occasioning serious detriment.

Yet much industry & ingenuity has been

expended to reduce the chaos of the vital movements to the same laws that govern inert matter.

The phenomena of life have been subjected to the rules of Mechanics, nice calculations were made concerning the vital forces, & results amply demonstrated by an appeal to mathematical tables — the organs of life being thus considered as simple rigid machinery kept in motion by strict mechanical powers.

Then Chemistry was called in aid clothed in an almost superhuman potency & charms. It came seeking from its fresh conquests among the refractory subjects of nature, attended by hoary headed Alchemist crowned with burnished gold, perfumed with the panaceas of immortality & ringing paeans of triumph. The human system was easily taken in possession, a laboratory was erected in its very citadel where operations were continued till all became black with the "smoke & tarnish of the furnace". Animal spirits were freely distilled from the brain, and a host of formidable diseases were evolved

from the system in a state of lively effervescence.

But the lapse of time & a more impartial spirit of investigation gradually overcame this threatening proclivity to hypothetical fancies. There arose bold & zealous minds whose active energies were employed to direct Medicine of its parasitic & cumbersome sophistry, to dis sever it from the embrace of officious and unwieldy allies that it might stand upon its own broad & independent basis. This it has left in neglect of the plain maxim, that, every science has fixed & well defined limits, that while the one has inseparable reciprocal relations to the other, constituting their perfect harmony, they can not enter into a coalition without final disruption & immediate disaster.

IV. Allied to this is Sectarianism, which has spread its distracting influence through every branch of medical learning.

Possibly this was a result that might have been predicted from many powerful existing causes. When so much reliance was placed on observation without principle, when individ-

ual facts were expanded into doctrines not tested by experience, there was ample ground for a species of dogmatism to assume its thousand attitudes.

So the slenderest conceptions, even a suggestion of imagination clothed with the magic given to it by industry and enthusiasm, might easily assume the importance of fundamental tenets, having, in that form a ready affinity for the second hand mind of the age.

There was little counteracting influence to arrest such bias - the long lineage of dawdling opinionists disputing hotly for precedence, till the small star of their ambition was suddenly quenched in a light of superior splendor.

Perhaps their names became great, but this very circumstance was the parent of a greater evil, for their error went forth clothed in the winning eloquence of magnanimity.

But this passion was by no means expended on trifles; on the contrary, it was often the fruit of a glowing enthusiasm that attracted to some captivating truth & thus led its votaries

to magnify conclusions beyond their just desert —
— seeking for some distant, prize, its scattered
gems, which wiser Industry coming after,
gathers up.

The factions of all sects in Medicine
have been & must be fallacious: — dogmatists
& empirics of every grade, founded as they are
on some partial and erratic views, they lead
to gross error & hazardous practice. There
is nothing in its original constitution that admits
of such dismemberment — guided by observation
& reason we all must meet on a common
ground with like weapons to contend with
a common foe whose subtle violence & power
will often laugh at our rigid tactics.

V. The prevalence of Credulity and
Superstition. has operated both directly and
indirectly, to embarrass medical practice.

It is proper to ascribe these to the influence
of radical, or if you please unlettered passions.

The simple ideas of medicine have been
coexistent with the life of man, associated as
they are with the instinctive wants of his

nature, & thus derived from an impulse as real
& persistent as their very desire of happiness ^{itself}
it is a part of it.

But it, would seem however obvious & sensible
the effects of disease, its causes were considered
only in their immediate results. These causes being
mostly invisible & latent, were easily referred
to the agency of a superhuman power exerted
without the medium of secondary causes.

A belief altogether so complete and
impressive led to the most absurd practical
^{results} whose disgusting vestige is with us to this
day.

In the practice of this belief, we find that
in the earlier ages the art counterpoised called
healing, was confined to the priesthood, who
became experts in all the arts of magic
& divination; directing their patients to
certain formal rites while the disease was
left in the care of nature.

The Cabalistic philosophy was but a mod-
ification of the same absurdity, which, though
of a more barbarous & incredible in part,

was embraced by many of the most learned of
its time. Even the excellent Luther believed
firmly in the demoniacal origin of all diseases,
equally disavowing the idea of accounting
for them by natural causes, & the utility of
remediating them by artificial means.

The labors of the Alchemists, which
so long & diligently engaged the attention of the
world were equally futile, while they gained
the favor of the great & learned. They even
practised so adroitly on the weakness of
Henry VI. that he encouraged the prosecution
of their investigations, graciously granting them
the privilege of making as much gold and
Elixir of Life as they pleased, in the expecta-
tion, that the issue would replenish his
exhausted treasury. For his own sake
the scheme should have succeeded, that
History might have brought down his name
with an additional notoriety, as King Henry
VI.—Druggist.

To the same sentiment we may safely ascribe
those varied forms of intolerance of ~~intolerance~~

which have been so strenuously maintained;
jealous espionage & direct proscription, and
not least those sacred obstacles so faithfully
opposed against the study of practical anatomy
— measures just as absurd as to demand
the acquisition of an occult language without
the aid of a lexicon.

The religious tenets of the Arabians virtually
interdicted this study, thus greatly impairing
those means of progress, which at one period
they so successfully improved.

On the other hand the contributions to
Anatomical knowledge by the researches of
Hervaeus, a pupil of the Alexandrian
School, were immediately followed by a
radical reformation in practical Medicine
& Surgery.

VI. The neglect of a well digested
Medical Literature has always been a serious
obstacle to the progress of Medicine.

It is impossible that a science so eminently
practical in all its details, depending so
much ~~on~~ accumulated facts & observation

should attain any degree of perfection without
deliberately attending to its records. If it were
in every instance, & more, if disease in suc-
cessive periods bore a uniformity, was faithful
to all its known characters, the object would
be comparatively unimportant. But when
it is subject to so many & complex modifi-
cations from a variety of known & ambiguous
causes, its certain efficacy & progress must
principally depend on its accurate & detailed
history. The early cultivators of Medicine
were not unmindful of this necessity; they
devised some means of perpetuating their acqui-
sitions, as a legacy to their successors, so imperfect
& ~~and~~ ^{indeed} as to effect, but ^{but} ~~trial~~ ^{trivial} results
their instructions, ^{often} containing truth & even
in a stable equivoque.

It is recorded as one of the happiest designs
of those having charge of the public health; that
they caused the history of individual diseases to
be inscribed upon tablets for exhibition in the
temples & other public places, that others might
have the benefit of such clinical facts.

In some instances the subjects of disease were themselves exposed by the public ways, both to catch the benefit of some want skill, & as plain treatises on morbid affections for the public consultation — a method of investigation certainly rational, & probably attended with salutary but meagre effects. Nevertheless, there were learned & distinguished authors in the earlier ages, who committed much to manuscript while others trusted to more faithful & equivocal tradition. Hippocrates was the reputed author of 42 volumes, & Galen of 750 essays on a great variety of medical subjects. Either of these successful reformers might have possessed the same intellectual strength, the same learning & industry, & still retained their influence in a limited circle, self limited with their transitory names. But in their contributions to the pages of medical literature was a familiar & indelible transcript of their industrious thought, of their matured meditations — its instruments & results. They labored zealously & well for their profession & the world.

Such must be the avenue through which every
thinking & acting philosopher, in medical science
must direct his labors in order to further
its certain progress & excellence. Its certainty
& exactness in whatever degree it is susceptible
must be based; not on conventional opinions,
or the rigid rules of theorists, but on a knowl-
edge of those exact & infallable laws of health
& disease, with which only a comparative &
well arranged system of research can acqui-
aint us. Such an acquisition is by no
means to be despised of; we rather look
forward to a period when all disease shall
be under the ~~power~~ control of a perfect art.

The present condition & progress of medical
knowledge promises such a destiny.

It has vanquished diseases which were the
terror of the nations, & walked through the
pestilence scathless. Its means & efficiency,
have been increased against the invasion of
a thousand multiplied diseases. Let it not
be its opprobrium that it cannot equal ours
the deities of omnipotence.

These developments were not the birth of chance;
that grandeur hath never yet made out her
own individuality; nor of Time, the maxim of
Lord Bacon nevertheless — Time a philosopher!
He buries all in his black mouth of mouldiness.

Every thing that has been gained in the
progress of medical learning has been at
the expense of ~~it~~ unvarnished industry.

It yields nothing but to the art, of unre-
mitting self immolating application, & he
who seeks with other means will learn the tale.

"Of dropping buckets into empty wells,

And growing old in drawing nothing up."

It is talked of enjoying such a knowledge
intuitively, or as a natural gift — a most
conveniently nonsense! A man inherits the
treasures of the "Human Organ" just as much.

Whatever then of success can be accomplished,
must be by severe study; its results will
be cumulative & must undergo the test of
an unequivocal standard established only in
in a strictly analytical & refining medical
literature. In what degree this presently

superiority of the French & German Medicine is indebted to this, is a matter of requiring by no means doubtful. The annals of medical science thus furnished & protected, can not but be the vehicle & instrument of its success & vigor.

Such a system was more fully commenced by the zealous & well directed labors of Sydenham. For a long period previous to his day, the feeble efforts of the medical world were confined to a few conflicting rivals and their most insignificantly satellites. In truth it had been sagely decided by common consent that the best treatment of disease was none at all - the issue being left to a something called nature, which unhelpfully treated weakly humanity with unkindly neglect. The genius & industry of Sydenham effected a reformation which was followed by the most gratifying results.

He sought for all the cognizable causes of disease & their relative modifying operations. He neglected nothing the most trivial,

but devoted himself to the pursuit of science with a devotedness and assiduity that triumphed over every ~~many~~ obstacle. It was not a genius that vaulted over the small operations of nature to gain some imposing eminence for gifted intellects to gape at, but that diligently observed & recorded unassuming facts with the grace of a skilled & faithful sinner.

Nor were his successors unmindful of their high and valued trust. That safe & productive direction of enquiry which his labors had established & conducted with so signal success, was prosecuted with accumulated means & unabated vigor.

The early part of the 18th. Century was illustrious as the period when the medical corps was strengthened by the accessions of numbers of gigantic minds, whose labors in the cause of science transcended the conceptions of their predecessors, & resulted in those brilliantly developed which had no parallel in the previous eras of the scientific world.

You will anticipate such names as Mead,
Went, Cullen, Linnaeus, Waller, Hailey, Rush
& others equally distinguished — a phalanx
of transcendent minds inspired with a
mutual emulation, & a zeal continually
heightened by the magnitude of its object.

Their object, their success was nothing
less than an absolute reformation not only
medical doctrines, but that radiated its
effects far into other systems of physical &
mental sciences. If we examine their
actions & modes of thought, we shall find
them stimulated, by those fair & enduring
attributes which constitute the true
integrity of the scholar & the man.

Their devotedness was called forth
by the urgent & immediate necessities of the
present; they lingered not to do merited
reverence to the achievements of the past,
nor to negotiate for the honors of the future,
no farther than their nation should yield
the perpetual elements of its greater
happiness & dignity.

Not the allurements of personal systems;
the evanescent splendor of theory, nor consid-
erations of temporary inclination, could sever
them from the single aim - the continuous
advancement & efficiency of that Science which
was to go down to posterity, the more or less
perfectly as they served its interests.

To say that they were distinguished
in the learning of their profession would be
superfluous; their works exhibit living proofs
of this. Few branches of natural ^{science} were
not enriched by their contributions, while
every thing that specially pertained to medical
philosophy was fully investigated, &
illustrations discovered inserted upon its pages.

There was a model of attainments
worthy of studious emulation. They trusted
not solely to high intellectual endowments,
to common sense, good sense, or fine sense,
without the princely aid of most stable
industry. They obviously did not look
upon the pages of Medicine as a scrap book,
or a collection of fine side riddles as some

skilled in such learning have supposed—
very few of your indigenas, muslim doctors
among them.

In all circumstances they exhibited an
unwavering attachment, to their profession.

They looked not upon it, as a field of
poetry, jostling ambition, or dull routine,
but, as a great, physical & intellectual
work committed to their faithful & studious
trust; as an important branch of the great
empire of art, over nature, in whose
honorable destiny the generations were
dependently heirs. Thus their attachment
sprang from a correct appreciation of the
nature & results of its functions; a
principle that, associated pleasure with
unwearied industry, & alleviated the active
duties of their station of half their toil.

How free were their lives from a sense
of drudgery! The very interest, of their
avocation, excited an absorbing fervor
that, beguiled the sense of labor but, in
its happy results.

Every thing that demanded their thought, or action was seized upon as an amenity, not as a beggaried intruder.

Had they, appreciated, or cherished their profession less they would have been unworthy to wear its emblems; but they did not so, they stood faithfully by its interests to the last, leaving their names & works to die but, with the death of Paine.

The great principle that gave action & effect to their high intellectual endowments & profound learning was Industry. Its spirit breathes in every thing impressed with the marks of their reforming genius; in that beauty & symmetry which they caused to spring from the chaotic relics of their predecessors, & in those impressive revelations before sealed in the mysterious volume of nature.

Industry with them was not, a theoretical problem, not a paroxysmal, temporising, passion excited by the momentary attractions of circumstances, but an operative

& constantly principles, that, pervaded every
action, & grew more vigorous by the
stimulus of its own activity.

No element of favoritism or obliquity entered
into its constitution, as an instrument, of
scientific and profitable schemes. The source
of their knowledge was one deep & exhaustless,
& their efforts were devoted to its development
as of one harmonious unity. Impressed
with such a direction, nature to them has
a various language but, no meaning,
discrepancy; rather confining themselves
to the diligent observation of its phenomena
than to expatiating conjecture concerning
their existence. We must attribute much
of their success to this habit of minute
& careful observation of the principles of
natural science, which made the great
movements of the elements not more real
or impressive, than the silent influence
of the small leaf, or the dew drop on the
plant leaf, gilding their specific titles
to their magnificence which fills the earth

with permanent life and beauty.

Thus they adhered faithfully to the safe maxims of the philosophical observer — a condition that raised them superior to the quibbled systems of speculation & dogmatism.

Nothing in that assemblage of virtues which entered into their character, is more prominent or impressive than moral excellence.

Viewing them in all their relations, the discharge of their professional & public duties was under the conduct of an exemplary moral sentiment. Looking upon the objects of their labors with a correct appreciation of its immediate & prospective benefits, they could not but acquit themselves with faithfulness & generosity. One of their number expressed it a sufficient consolation under all his arduous duties, that although he could not enjoy the happiness destined for posterity, he could contribute to produce it. Such was the sentiment of a sincere & practical benevolence inspiring them with those elevated & ennobling designs

which signally pained them the name of
universal benefactors. It was remarked by
Sydenham, that he had rather discover a
~~new~~ method of curing the slightest
disease than to accumulate the largest ^{fortune};
it ^{is} better to assist mankind than to be
rewarded & applauded by them; provided
I discharge the duty of a good citizen & serve
the public to the prejudice of my private
interest, what matter it, if I gain no
reputation thereby?

Their deep philosophical devotion
received its early & generous impulse at
the altar of Nature's Great Author, &
the more we examine their characters the
more occasion appears to admire that
controlling & elevating zeal which gathers
its life and energy from such contemplations.

The results of their labors are before us — a patrimony which a worthy ancestry has left at our disposal. Its life has been of various fortunes but ever honorable. The ages of annihilating darkness have not destroyed it, but through all intellectual desolation its kindling light has shone, still cherished & revered as the boon of Heaven that poor humanity could last part with. Its boundless resources have in successive ages won the greatest intellects, the proudest ambitions & the richest Councils that the annals of science can boast of. In the whole field of natural science its cultivators have effected more than any other body or class of men, while their branches eminently practical owe more to their labors than to any & every other source.

It is unnecessary to state how far the legitimate exercise of its functions has merited the confidence & gratitude of men, or to adduce arguments for its designs — to make reason a pupil & add proofs to a truism. But, although it has done so much, although "it has penetrated

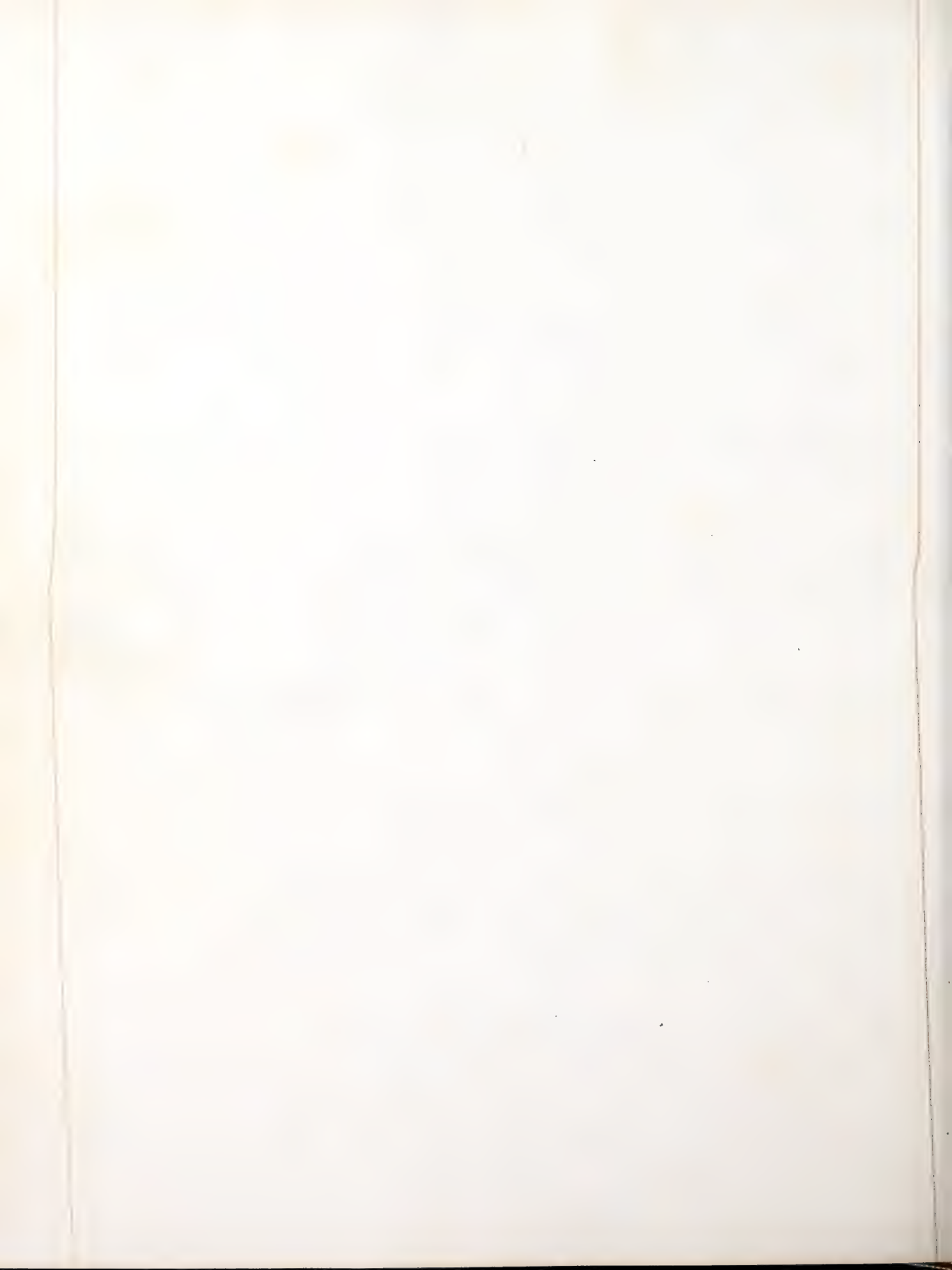
the deep & gloomy abyss of Death & a quivering
foul hours in its cold embrace", it is still
on its course but midway to perfection —

Perfection! What harvest of human knowledge
has done with time its perfect work? Till
then its motto must be improvement; not
posthumous fame. Its undeveloped resources
are boundless & hold in store rich treasures to be
sought & prized as maxims in the text book
of life. We can not know the true extent of
its dominion, but it should be our duty and
pleasure to exert & labor for its complete
success — this should be a stimulus to urge
to the boldest & sincerest effort to elevate
theoretical & practical medicine superior to
every obstacle, as far as the nature of things will
permit. This is an imperative obligation
that rests upon every individual member of
the profession & to which every person entering
its pale gives virtual assent. Nor are advan-
tages wanting to facilitate such a pursuit; we
need but follow that direction of enquiry, which
preceding mind has indicated, not less the

necessitous demands of Medical Philosophy, itself,
which can not be misinterpreted, & success will
be certain. It will call inductively into
requisition the active & elastic spirit of youthful
Sentiment; wisdom, learning, & generosity.

Such call for high aims, strong hope, &
vigorous endeavours. Let these ever go with
us, ^{as} we leave the walls of this honored Institution
where we have daily heard them inviolated
so fully & eloquently, for they are the infallible
sanctis of usefulness, happiness, & honor.

Robert Kane
Jan. 18 1843.



XII.

Dissertation
On
The therapeutical application of Ice,

By
David Lewis Daggett, B. A.
of New Haven, Connecticut,
Candidate for the Degree of Doctor in Medicine.



In the Therapeutical application of Ice. —

The term Cold has by some been regarded as positive, but in its strict acceptation it is merely negative; denoting, the absence of heat. We have to consider it as a remedial agent; & must refer rather to the means which produce the sensation than to the sensation itself.

The usual effects of a considerable abstraction of caloric are familiar, viz- the sensation called cold, a paleness of the skin generally, with sometimes a bluish tinge — a shrunken & contracted state, also a peculiar roughness or "cutis anserina", while in some cases the hands & feet actually become smaller in size. A more intense degree of cold produces numbness, from its action on the vascular or perhaps on the nervous system — the whole surface of the body becoming deadened to the sense of touch, & the sense of taste less sensible than before, — the brain loses its activity & an almost overpowering tendency to sleep comes on, which, if indulged in, may terminate in death. — These are the effects of cold in a moderate & in an extreme degree, — &

They have given rise to a great difference of opinion as to the manner in which they are produced. By some cold has been regarded as strictly sedative, while others have made it stimulant — both, tracing its influence upon the vascular & the nervous systems. More recently it is classed in the *Materia Medica* as a Refrigerant. The capillaries are supposed to have their action diminished, & thus indirectly to lessen the vigor of the heart & arteries. The same is thought to be produced whether it be applied externally or to the internal surface of the stomach. This may be regarded as approximating to something like a theory on its "modus operandi." But without advocating any particular theory, we pass on to consider the forms in which cold has been used as a remedy.

The use of cold as a remedy is not of modern origin. Hippocrates observed the great degree of heat in fevers, & as a natural & obvious remedy, he applied cloths wet in cold water to the hottest parts — abstracted blood, & administered internally cold water & cooling drinks. None surely can lay claim to more accurate observation than he. Since his day, cold has been more or less in vogue at different periods. — It has been employed to give tone & vigor to the system. As a tonic, in the forms of cold air & the cold baths,

it has long held a high rank. In cases of general debility & in those depending particularly upon a stumorous habit; in children naturally feeble & delicate, & in certain forms of diseases, as of Chorea, Rheumatism Paralysis Dyspepsia &c cold bathing is of undoubted usefulness.

Cold has also been used in the form of evaporating lotions to relieve local inflammation.

But its principal use has been in the form of cold water, internally & by affusions. In some diseases this remedy has been extensively employed. The Persians are said to have treated Spasmodic Cholera in this way. By far the greatest use of it, however, has been in Fevers. Experience teaches that Cold cannot be safely used in every stage of these affections. It becomes then an important inquiry, in what states of the system is it indicated?

Dr Currie, who has written largely upon this subject, lays down the following rules as to its use, which we quote. —

- 1.st Cold water is not to be used as a drink in the cold stage of the paroxysm of fever, however urgent the thirst.
- 2.^d When the hot stage is fairly formed, & the surface is dry & burning, cold water may be drunk with the utmost freedom.
- 3.^d But after the perspiration has become general & profuse, the use of cold drink is strictly forbidden.

In short - Cold water may be used internally or by affusions when there is no sense of chilliness present - when the heat of the surface is steadily above what is natural & when there is no general or profuse perspiration. These rules we adopt as those which experience has proved correct, which are applicable, & must be strictly followed in whatever form we employ cold as a remedy.

But Cold has also been used in the form of Ice, & we will now notice the particular cases in which this form of it is indicated.

In Phrenitis - the application of Ice is considered one of the most powerful remedies. Evaporating lotions & Ice, have been much relied on to subdue violent inflammatory action of the Brain. Evaporating lotions when properly applied, produce, no doubt, beneficial effects, but in the manner in which they are often employed, they are more injurious than useful. To use the language of Dr Graves - "Whether applied to reduce local inflammation in any part of the body, or to cool the scalp in determinations to the head, cold lotions as ordinarily employed do infinitely more harm than good. The cold is applied at distant intervals, its effect soon ceases & reaction constantly takes place, leaving the part as hot or even hotter than before." - This is perhaps

the reason why cold is not more of a favorite with many; their applications not only failing to relieve, but aggravating the disease, simply from a want of care & attention, rather than from any fault in the remedy itself. All objections are obviated by using the remedy in the proper way. Instead of water or cold lotions, in most cases by applying to the head, bladders filled with pounded ice, a steady, uniformly cold temperature may be kept up so long as a single piece of ice remains. Or it may sometimes be better to employ the method recommended by Dr Stokes, which he prefers, & particularly in cases of children — "to take a piece of smooth ice about the size of a dollar, & half an inch in thickness; this is to be placed in the hollow of fine cup sponge, & steadily moved over the whole shaven scalp. By this mode you prevent the pain which the iced cap produces, & the sponge absorbs the water produced by melting, & the application may be continued for any length of time." These modes are applicable, where the object is, not to make an impression on the system, but to relieve local inflammation.

In certain forms of Delirium & of Apoplexy, where the object is to give a shock to the system, cold water thrown forcibly upon the head, may be preferred. —

But Ice may also be used to relieve inflammation

of the Abdominal viscera. The general rule seems hitherto to have been to apply cold to the head, & heat to the thorax & abdomen. This has been the practice, more perhaps from regard to long established custom, than for any other reason. Says Dr Bell, of Philadelphia, "I have used with marked benefit, the application of cold to the epigastric region, the heat of which, & indeed over the whole abdomen, is often so excessive in Typhus & Typhoid fever. The patient will press with evidence of pleasure - the sensation, the cold cloths or Ice folded in cloths to the epigastrium & ask for a renewal of them." Says Dr Gerhard,

"In Gastritis of a violent character, with intense heat & vomiting, it is a most excellent practice, & fully borne out by our own experience to apply a bladder of Ice over the epigastrium, & remove as soon as it melts, but if the skin should become cool or the patient chilly, it should be immediately laid aside." Her testimony might also be adduced to the same point, but enough has been brought forward to prove that the practice is not only sometimes safe, but often very beneficial.

In Gastritis - the use of Ice internally is also indicated. Not only will it prove grateful, by allaying the burning heat but where there is irritability of the stomach, it is

particularly soothing. In severe cases where the stomach rejects nearly every kind of medicine, Ice will be craved by the patient, & will often quiet the gastric uneasiness when other remedies have been tried in vain. — Some have apprehended danger from its use in this disease, & they argue, that as persons, when heated by exercise, have brought on fever & death by taking a quantity of cold water or Ice, it produces gastric inflammation. But the states of the system in the two cases are entirely different. In Gastritis the heat is steadily above the natural standard, but after exercise the heat is not uniform, perspiration is usually taking place, & this, in accordance with the rules we have given, forbids the administration of Ice.

On this point the testimony of Dr Stokes is decided — "Depends upon it, there is no danger in employing either Ice or cold water in Gastritis. There is nothing so grateful to the patient as Ice. Let a quantity of it be broken into small, pieces of the size of a walnut. Let your patient take one of these pieces & having held it in his mouth for a few moments to soften down its angles, let him swallow it whole." Numerous cases are on record in which this remedy has allayed the most severe irritation of the stomach, & which justly entitle it to the character of a useful Anti-irritant.

In Fevers, also, to allay thirst; Ice is of service. — The effervescing mixtures are more commonly administered for this symptom & sometimes with relief. But they as often do injury by distending the stomach excessively & producing a tendency to tympanites. The most harmless fluids when taken constantly will bring on a sense of heaviness & oppression in the stomach which tends only to increase the already irritable state of the nervous system. Nausea, pain & symptoms of intestinal irritation may be frequently the consequences of even the mildest liquid indulged in too freely. The patient's thirst is incessant & induces him to call for drink almost constantly. This thirst as it is confined almost entirely to the fauces, may be relieved better by a small quantity swallowed slowly, than by a large quantity taken at once. A small piece of Ice held in the mouth & slowly dissolved is recommended by Prof. Ives & is found to afford relief for this symptom better than any thing else.

In Hemorrhages also of various forms, Ice is indicated.

In Epistaxis, the flow of blood has often been checked by the application of cold to the neck, the back or to the genital organs. The most common remedy of the nursery consists in slipping a cold key or piece of metal down the back.

So that the influence of this remedy is not confined merely to the part with which it is in contact, but by sympathy produces its effects on distant parts. Says Dr Watson of London, — "Next to venesection, astringents constitute the great resource against actually existing hemorrhage, & among these, cold is one of the chief. It may be placed in direct contact with the bleeding surface, as when Ice is swallowed to restrain *Haematemesis*, or cold water injected into the rectum in exhausting *Hemorrhoids*. Or it may be applied as near as possible to the seat of hemorrhage, as to the chest in *Haemoptysis*; to the epigastric region in hemorrhage from the stomach; or to the perineum or lower part of the abdomen in hemorrhage from the intestines or urinary organs."

In Uterine Hemorrhage, cold is an important remedy. It is one upon which certain reliance can be placed.

Perhaps no one remedy more uniformly produces firm & vigorous contraction of the uterus than cold. Ice may be applied to the abdomen over the region of the uterus, or in the form of iced water it may be injected into its cavity, or what is equally & perhaps more beneficial, snow may be crowded into the vagina, as tried by Dr Levi Ives of this city.

In Hemorrhoids - Ice is useful. -

There are states of these affections which the common applications of heat & moisture will not relieve, which almost every remedy seems only to aggravate. In such cases a cure is often effected by enemata of cold water.

But where the tumors are external & much inflamed, occasioning excessive irritation of the systemic bladders & rounded Ice applied to the part are found to soothe & allay the irritation.

In Strangulated Hernia, Ice has been found of great benefit, favouring by its astringent power the reduction of the part.

In Protrusus Ani also it has been used with the same result.

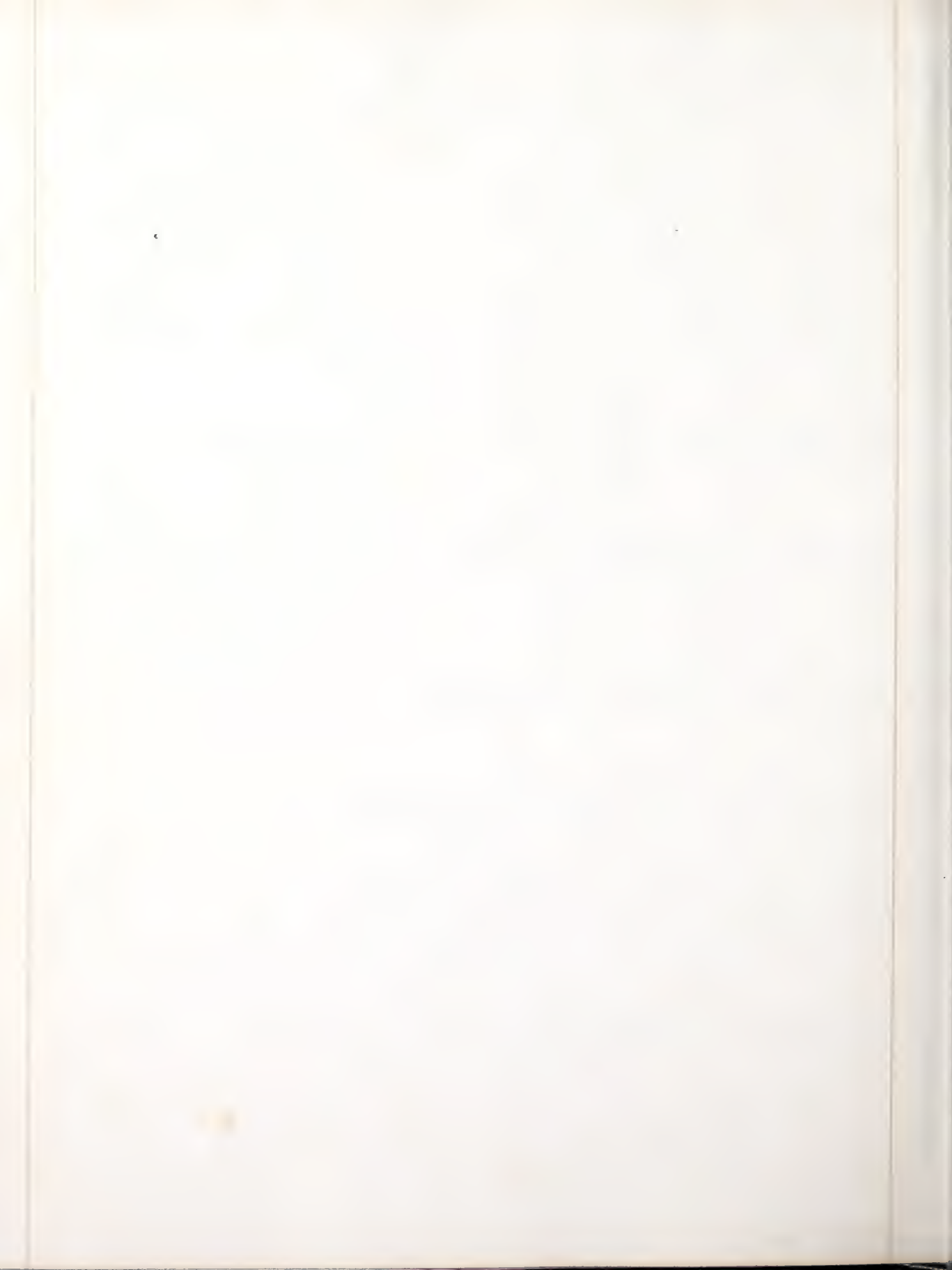
In Ecthyma, clothes wet in iced water & constantly applied are found very efficient to subdue the inflammation.

In Infantile Convulsions. Ice has been used. A case is reported by Dr Todd of London in which Ice was of great service. After having bled the gums, leeches & administered enemata freely "Ice to the back of the neck & spine was then advised with the view of calming by the sedative agency of cold, the irritable state of heat

portion of the cerebro-spinal axis which was thought to be affected. The happiest results followed." Immediately on its application, the breathing became easier the pulse fell rapidly & in ten minutes the convulsions entirely ceased." In this case the Ice proved a highly useful auxiliary. The same effect would, perhaps follow its use in many cases of extreme irritability of the spine.

These are some though not all of the particular diseases in which this remedy is found useful. From its effects in these it certainly merits the character of a valuable remedy. Though it may not in every case be considered as effecting a cure by its own powers alone, yet it may be regarded as an important auxiliary. If the effects of cold in its various forms were ably investigated, the result would doubtless be the more extensive employment of it as a remedy in disease.

David L. Isgett.





XIII.

Dissertation
on

The Want of Principles in Medicine, and the
Difficulties of Medical Investigation.

By

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Candidate for a License.



Want of Principles in Medicine.

Difficulties of Medical Investigation

The first object of a well ordered mind is to form into classes the ideas which it has acquired. - to arrange them into such order that they can be called up at pleasure & so to compress them, that in miniature they may show their full proportions.

Like the famous statue of the Grecian sculptor formed from the various beautiful proportions of all the Hellenic race, & thus in one figure gave a perfect model of Grecian beauty: so by a systematic arrangement we would force into one compound, the best, & most beautiful of each of the separate ingredients. But in so attempting the nosologist - like the sculptor presents a distorted likeness; for though the prominent features of each may be presented, yet the whole of no one figure is seen.

The arrangement of science ever obvi-
olence to the arrangement of nature,



The Botanist places in the same species* the giant forest tree of a century's growth & the microscopic fungus, which germinates, matures, & decays in a few hours,* because their petals & stamens are similar in proportions & numbers. As well might the Zoologist class animals from their genital organs. And he does no better; for from a single habit or resemblance he classes together the whale that swims Lord of the Ocean & the bat that flies in the air.

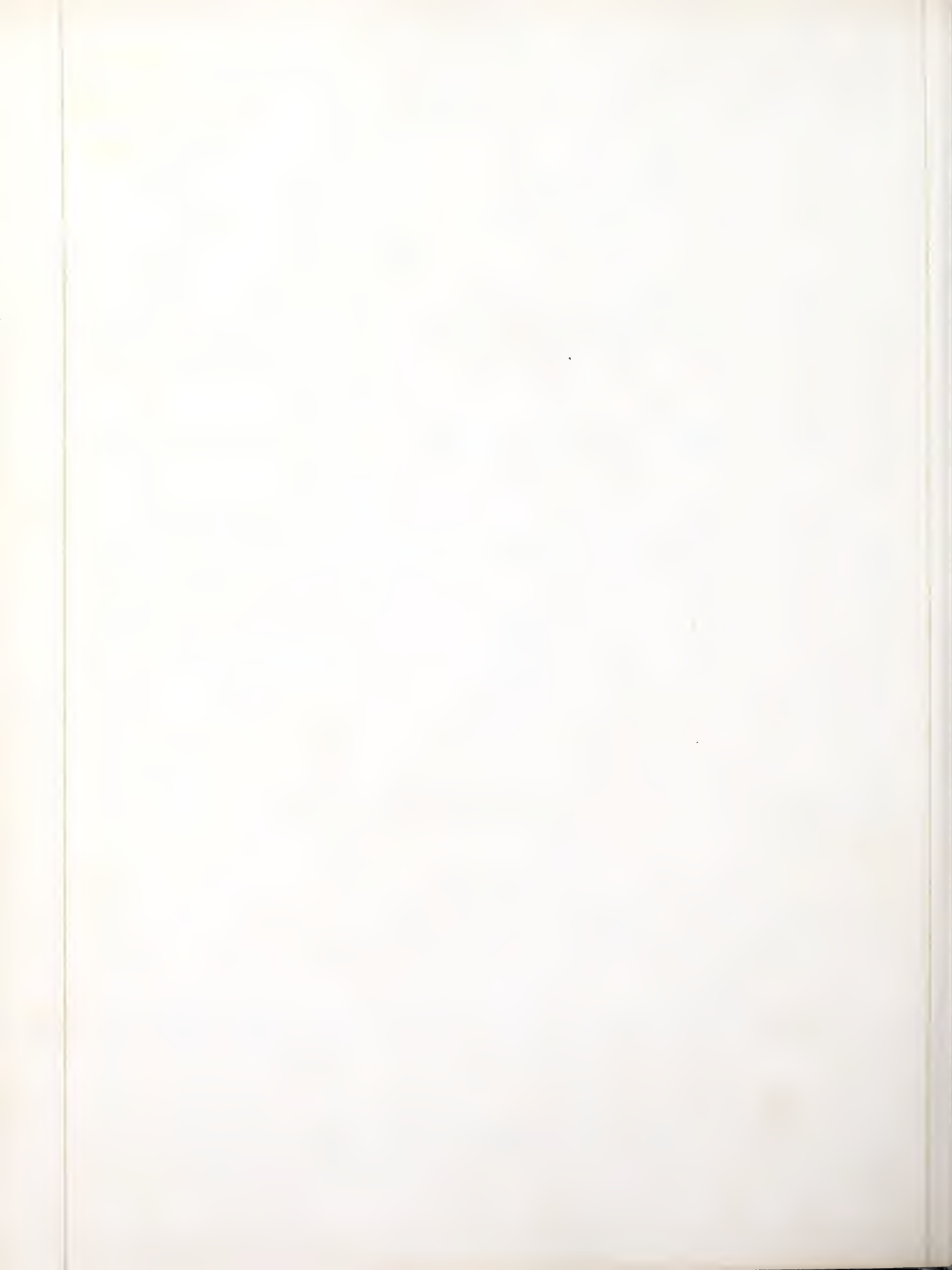
The powers of the mind being too limited to retain every separate fact, classes & orders are formed by which it is hoped to facilitate the acquisition & retention of knowledge. In fact to form "help figures" which are

"Indices of the giant mass to come at large" It is doubtless if this object be attained in any branch of knowledge. For there is no short way to temple of knowledge. There is no labor-saving machine or steam



motive power. When ever we attempt to epitomise the journey & level down its asperities. we only abridge our information & with a show of learning cover our ignorance. It is true that a tyro in Botany, may set down a plant as: leaves ovate, oblong acuminate, serrate & glabrous &c and a naturalist on the first inspection pronounce an animal, a mammalia. yet he has only named it. but has learned no more of its habits & disposition, than he has of the loves & wars of the animalcules.

This is peculiarly the case with nosology. It may give a show of learning to one who can retain words without ideas, it may enable him to converse with a learned air in unintelligible jargon & like the logic of the Schoolmen to dispute eternally about nothing; but it yields no useful knowledge: it gives no key to unlock the mysteries of diseased action or leading thread to guide us



through the labours of animated na-
 ture. Whilst the systematic arrangement
 of other sciences have their day & their
 followers, and are only remodelled by each
 master spirit, nosology seldom satis-
 fies its arrangers. never the profession &
 almost every writer considers it so defective
 that he moulds it to suit his fancy.
 Even the acute Good deemed it prudent
 to prove by a string of syllogisms that
 tillage meant sheep & other cattle
 before he could arrange a certain re-
 fractory disease (Berabir).

When we view the contrariety exhibited
 by the various systems of nosology, the con-
 clusion almost necessarily forces itself
 on us, that either there is no necessary
 connections between diseases or that the
 nosologists have not discovered them.
 & that the divisions made are not natu-
 ral clefts, but broken fragments. If we
 contrast the care & erudition exhibited
 by Follen in his arrangement. the labor

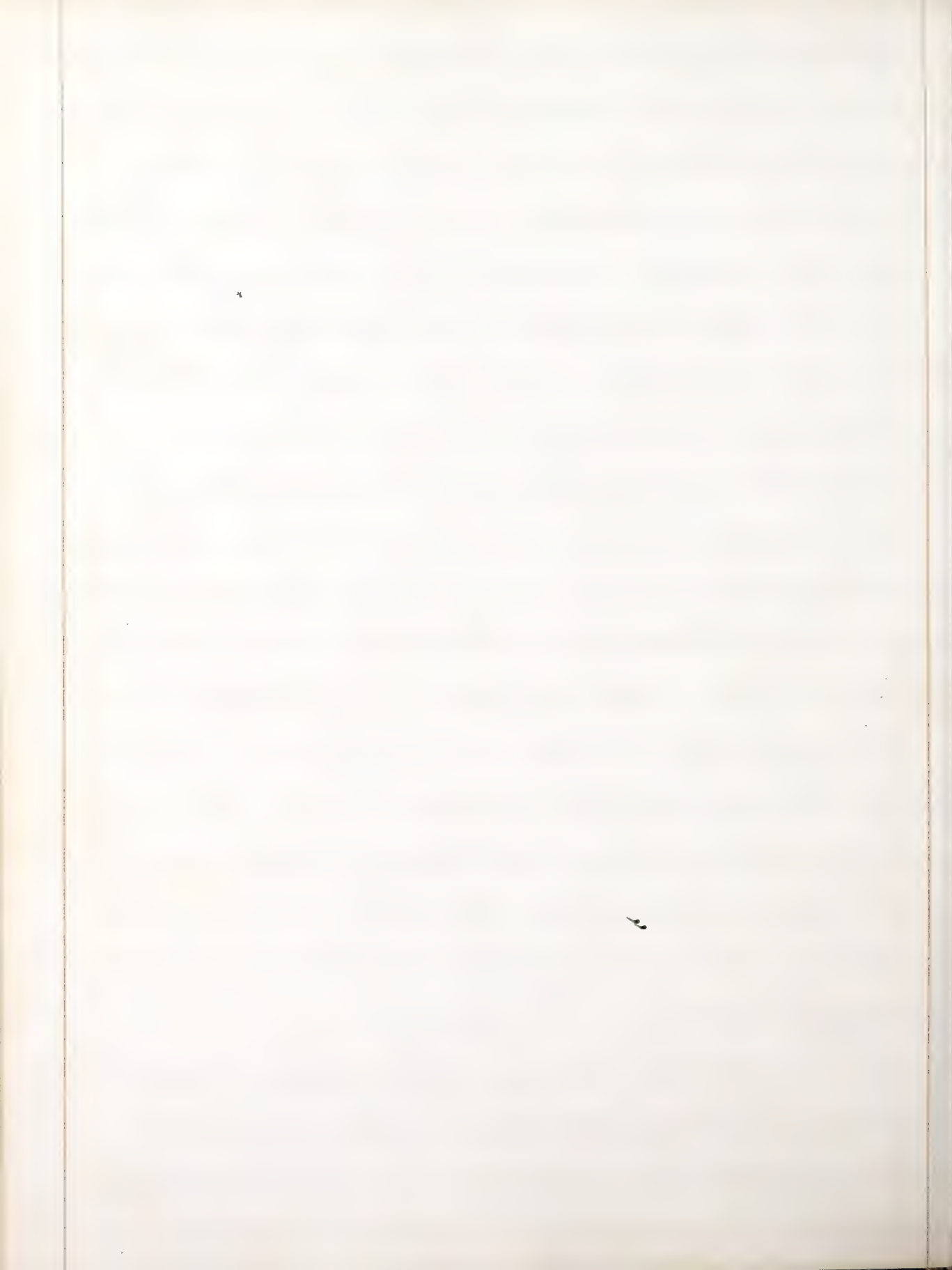


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by which Good exposed its errors & attempted to establish a better or the short hand method which Brown had previously made of it, we cannot but exclaim of them all "hoc est non dividere. sed frangere" *Ass. ars. poet.*

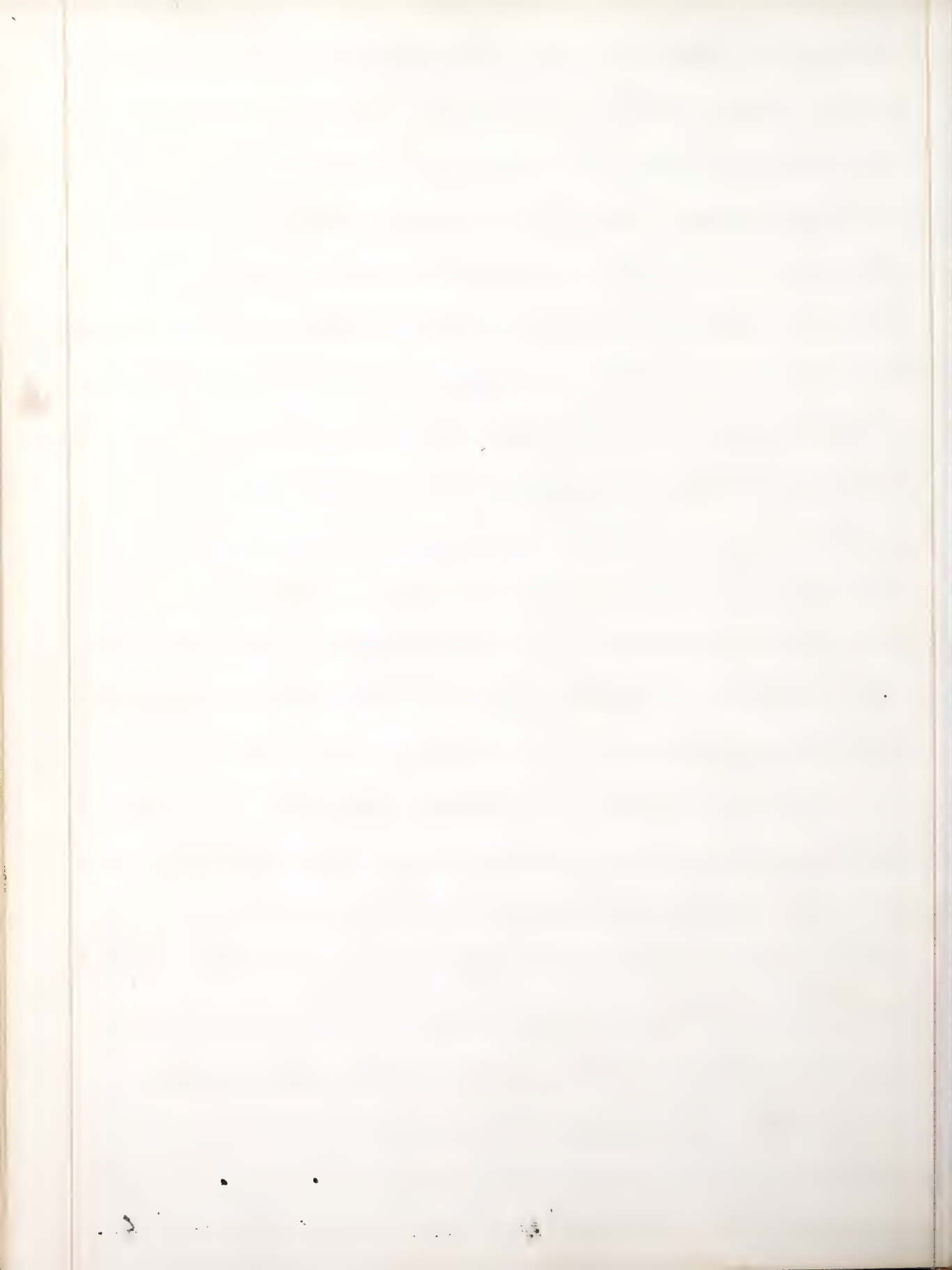
But could a satisfactory arrangement of diseases be formed yet it would be comparatively devoid of usefulness; for though a general idea may suffice as a matter of curiosity, the physician must study disease in the variety & in the single cases. Little information is conveyed of a particular disease from the fact that it is of the class *Hæmatica*. Order *Præctica* Genus *Epænetus*, &c. &c. &c. The systems wrap the mind of the student in its dusty folds, like the swaddling clothes the body of the infant restraining its motions & preventing its growth.

In the arrangement of other sciences the objects have a fixed nature. The vegetable, animal & mineral kingdom have a fixedness about them which can



6
not be predicated of disease. The habits of
plants are the same in all seasons un-
less modified by obvious causes. But of
epidemics no two are of the same type.
Some occult cause or as Edenham has
it "the constitution of the season" though
no chemical analysis can detect ^{its} source
impresses on each a peculiar character
which calls for peculiar treatment.
In diseases there are no universals in
which all the rest are included & by an
acquaintance with which we are let
into the mystery of the treatment of a
whole class.

This pretence of the same
uniformity & precision of disease as if
it in objects of a fixed nature, is the
fruitful mother of all quackery. When-
ever we attempt to give a definiteness to
a subject of which it will not admit,
we by the vain attempt render it more ob-
scure. By constituting certain symptoms
dispositive of others a certain disease & pre-



7
describing certain remedies as specifics, it is
attempted to make the practice of med-
icine simple; but by so doing what from
the indications present ought to be seen
plainly by the physician has been laid
down obscurely. & thus has often render-
ed the Doctor more fatal than the disease.
Protons would loose his existence or die
of very rage were we to fit his mode of
existence.

This was strikingly & fearfully
illustrated in the epidemic yellow fevers
which successively visited Rio. They sought
in books for its nosological arrangement
& treatment. & with their backs turned on
the patient & the symptoms present, prescrib-
ed for a disease which some body had
described as occurring some where, some
time. Yet still more so in the epidem-
ic Cholera. "While at Deaths toll, whose restorion rang
falling daily for his millions at a meal"
the sage doctors were studying treatises on
Asiatic Cholera, with minds hard winked

* And in this case when the great specific
"the golden secret, the sought Kalon was found"
it proved to be only salt & water, acting
doubtless as an antiseptic, & by pickling
the patient kept him from decay.
(But unfortunately specifics

to the fact that they had to deal with the cholera at Phila. - that they had all its symptoms before them & that the articles of the Mat. Med. when judiciously applied were often sufficient to counteract the morbid symptoms. But the systematic order in which it had been described & the routine practice pursued, set them in the pursuit of specifics; * (which) in all acute diseases are almost certainly the chance of death. For if remedies when seasonably administered, yet they cannot be indicated until all the symptoms are developed at which period all agents are often ineffectual. In syphilis it is doubtful if mercury has not done more harm than good & a disease more lingering than fatal has often been prolonged by reliance on quinine without collateral aid. When all cases indiscriminately are mounted on the same favourite hobby the patients almost infallibly ride to the banks of the Styx. Here disease the session of but one

organ, the abnormal operation of but one function, then specifics might be successfully applied, but often more than one function suffers primitively & more still are drawn in by sympathy, so that we require medicines of a specific operation on particular organs which judiciously combined will counteract all the combinations of disease.

On the routine practice without principle & a few symptoms despite of others constituting an idiopathic disease Brown has forcibly & with much truth remarked. Hence in bleeding diseases, the universal practice has been to bleed; in vomiting to give emetics; in diarrhea to give cathartics, in imitation of the efforts of nature. The symptoms of the disease have been mistaken for efforts of the constitution to remove the disease. It is now however proved that there is no such efforts. Every symptom & particularly every morbid evacuation is to be stopped. The contrary practice is as good sense as it would be to procure bringing on a death rattle to cure

a morbid one. Such practice has given too much truth to the sarcasm of Butler

"When the peccant humors have gathered together the doctors fancy that they are driving them out." Hud.

It is principles that we now want in medicine. For though there is too much philosophizing in which there is no philosophy. yet it is still true that there are more false facts than false theory in medicine. The Cullenian School tore away the whole of the humoral pathology & established a rational empiricism on its ruins: but it has been carried to extremes. for facts however numerous or well observed if not connected by theory can never establish a rational practice.

It was long known that counter irritation subdued disease before we had the important principle announced that two diseases cannot exist in the constitution at the same time & the important inference that when we can excite a more powerful irritation or a different irritant

* Not by ascribing to them a specific operation
which has been so severely castigated by Mohie
in the following. "Nihil a doctore

Domandatur causam et rationem quare

Opium facit dormire.

Ad quod respondeo;

Quia est in eo

Virtus dormitiva

Cujus est natura

"per se assoupire" Le Malade Imag.

safely that the disease will be subdued
 It is the stronger man entering the house
 & binding his enemy. It may be that irri-
 tability is to physic what gravitation is to the
 physical sciences, having its out going to
 the bounds of creation & holding the uni-
 verse in its embrace. It is certainly ^{impossible} to trace the curative results of many ther-
 apeutical agents to counter irritation, ^{or any} but
^{other known Law;} we can call that practice only rational
 & intelligent which we can trace to some
 established Law of the human constitu-
 tion. All else we must call lucky empiri-
 cism, fortunate quackery, & be content with
 the result without inquiring how? or why?
 It is facts & a theory that explains them that constitute
 an intelligent physician. *

The pretended uniformity of disease & the belief that
 there are certain remedies for each malady de-
 grades the science & reduces it to a mere art. Such
 indeed appears to be the vulgar notion & this gives
 all their popularity to the patented & puffed nostru-
 ments. Were it alone to prescribe specifics we

* soul lit countenance. . . .

*

might at once dispense with the long & laborious
 mental training. No more would we seek the
 (~~how sicklied over with the pale cast of thought~~)
 or applaud the tireless application. For it would
 not be required to hazard our own con-
 stitutions to unwind the mysterious folds in which
 others are wrapped. No more need we inhale
 noxious effluvia of the dissecting-room or tra-
 diaously follow the scalpel through every nerve
 & fibre of disgusting carcass, accurately marking
 the normal & abnormal structure, prying into
 their functions & with a daring mind expos-
 ing the mysteries of man. The physiological, pa-
 thological & anatomical researches might be
 cast aside as useless lumber of the mind &
 the whole science be reduced to a simple art, to a
 manual operation. Where it indeed merely to
 observe symptoms & prescribe remedies handed
 down ~~to~~ posterity it would require only the
 meanest capacity. The cobbler & tailor on the bench
 would require a superior capacity; for any one
 endowed with the senses could observe if a pa-
 tient vomited, had a hot skin flushed counte

manee &c.

13

A symptom is an effect & it is tracing the effect to its cause & combatting it there that constitutes the rationale of practice. When we act otherwise we too often but lop of the Hydra's head to be replaced with a triple growth. The knowledge that a patient is affected with a cough gives but little clue to the treatment, but it must be traced to some organic lesion, to some diseased function, the cause of which must be sought for in some near or remote agent. It is at times an idiopathic disease, but oftener a symptom. As a symptom it may occur in pleurisy pneumonia hepatitis, asthma, catarrh, phthisis haemoptysis, hysteria, helminthia dropsy & various other complaints. In most of these cases treatment for the cough alone would disappoint the practitioner if not destroy the patient.

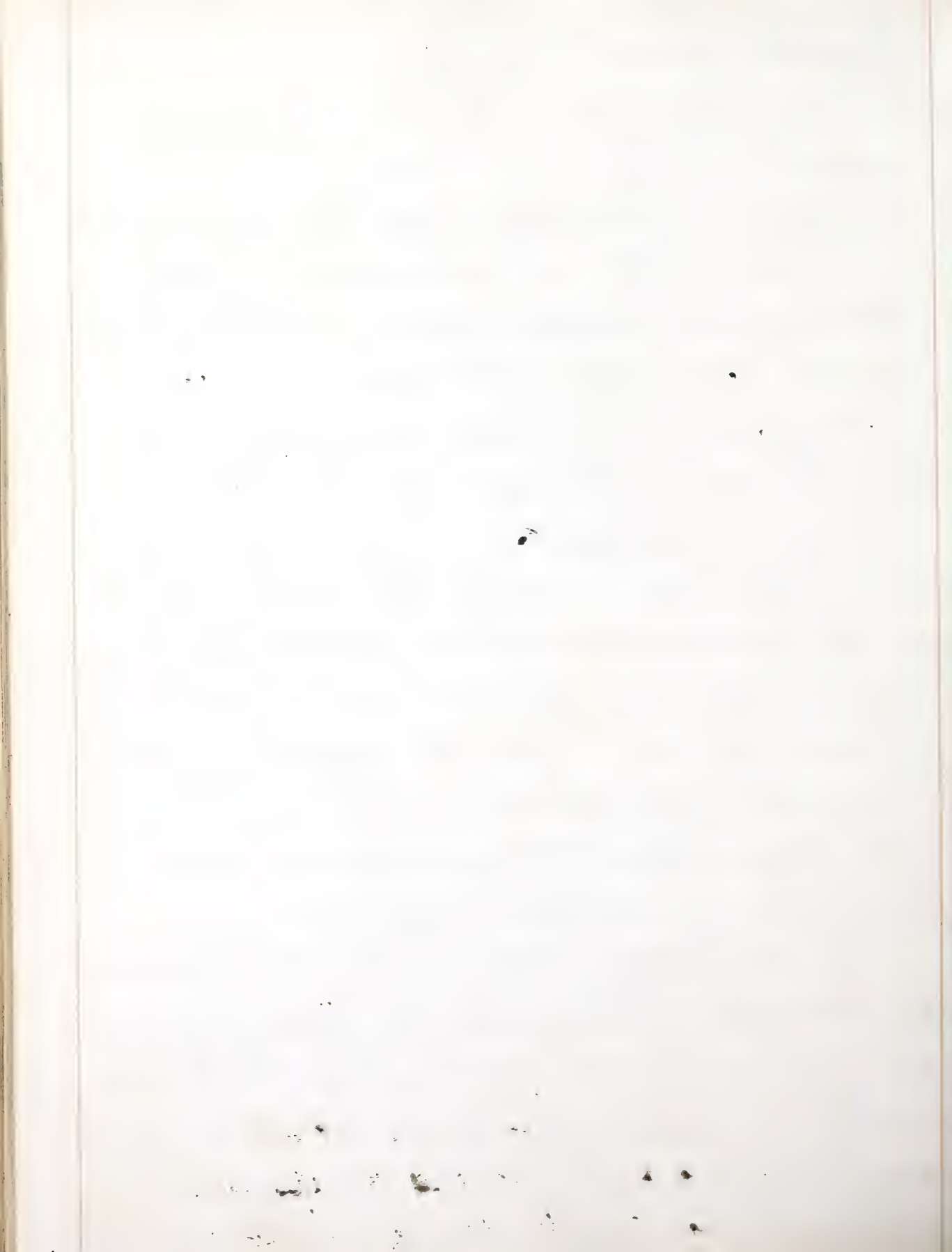
Symptoms have been enumerated without end, but convey no more useful information to the physician, than is the sight of spots on the sun's disk without a knowledge of their cause. The mere symptomatologist has acquired knowledge like

* It is the school boy playing at blind man's
buff. He has to grope after his fellow in the
dark. & then grips whom he has caught,
~~or he sent back in disgrace,~~ else let him
go again.

14.
That of the idiot boy who could name all his
father's sheep but yet knew not the use of the
animals. *

Without well formed theory medicine can never be intelligently practiced. What argument can the mere empiric bring against the well authenticated facts in favor of Homoeopathy. Go him the multiplied cases of cures effected by it must be irresistible. But when it is considered, that no testimony however strong can establish what is unreasonable & absurd. we must conclude that the facts that go to support such absurdities are only seeming facts. That the phenomena observed were occasioned by some other agent - that some other efficient cause intervened to produce the resulting effects.

Necessary as it may be that principles be established for medical practice, yet they are peculiarly difficult to arrive at. In other sciences we can generally ascertain the deficiency of our knowledge of the precise objects which impede our progress, with frequently the means



of summoning them & can always ascertain if the
object be attained. The process is clear. The result
certain. But in medicine we have to experiment
on living matter. & so many different causes
are operating that it is difficult to assign to
which the results may belong. It is but the cal-
culation of probabilities. When facts seem suf-
ficient to establish a point. others of a contrary
nature intervene & blast all the fond hopes
of the experimenters.

If we attempt to trace out the connections of life with the ~~living~~ five mus-
cular "In following life through excretions we direct

"We lose it in the moment we detect"

And can safely conclude of it that

"For from all vision thus profoundly lurks
through the whole systems utmost depths diffused" ^{same} de la Roche
or if we would by autopsic examinations ascertain the
cause of disease we are uncertain whether the morbid
changes be the cause or effect & frequently doubt-
full if they have any connection at all with the
disease. For we are pursuing the operations of
the soul through the structure of a corpse & the

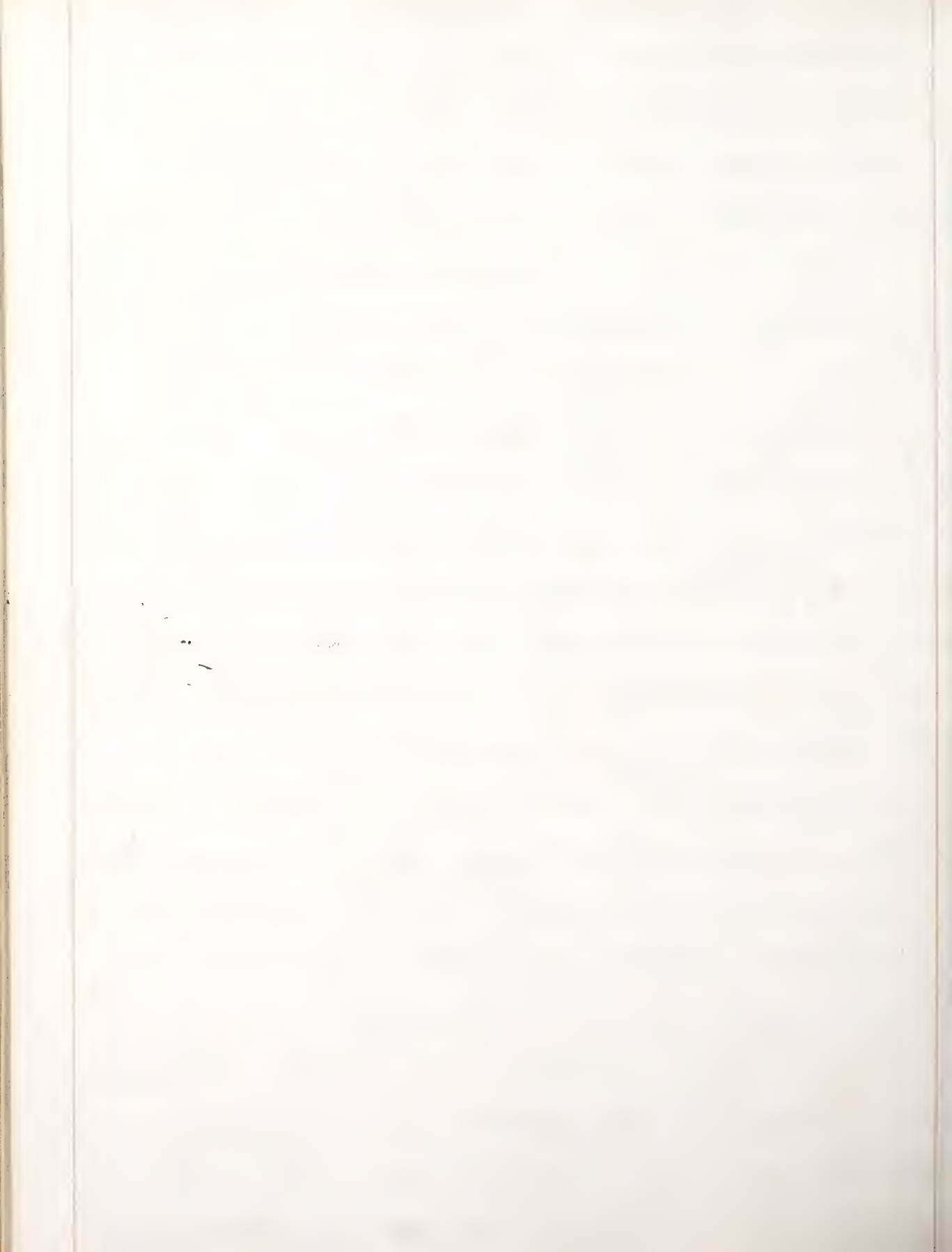
* a blind puppy and a young cat-

Instructions of life in the lethargy of death.

The same lesion as far as our observations can extend have proved decidedly fatal or a harmful complaint.

Of experiments of research many must be made on animals whose natures are so different from ours that the results are peculiarly unsatisfactory. There is a wide difference between the constitution of an old mare & that of a man, or the healthy state of an animal & the diseased constitution of a human being. On subjects so different, the remedial agents must act very oppositely. Even in different individuals the idiosyncrasy is so great that agents which act beneficially on one person is deleterious to another in apparently similar state of health. While opium acts on one as if by enchantment, allaying pain & soothing irritation, with others it racks every joint & tortures every fibre.

There are facts enough, but they are not rightly observed or at least do not serve the purposes of fact in other sciences. At the present day



17
no new practice is brought forward without sup-
porting it by the results of practical experience

The disease exists - the remedy is prescribed - the dis-
ease is removed. Of the ability & veracity of the
narrator no one doubts. Others by the plan -

they fail of success. Thus the practice runs through
the career of expectation. success and dis-
appointment. Let us apply this to the treatment
of fever the opprobrium medicorum. When Cul-
len's theory was ripe, typhus fever was a disease
of debility & was cured by a course of Tonics.

In this succeeded the practice of cold affusion
& the profession congratulated themselves that
at length they had subdued the formidable
monster. but this was quickly supplanted by
the lancet. Thus in the space of forty years there
were three revolutions in the treatment of a
disease of very frequent occurrence & of
the most decisive & urgent character.

Under each treatment the patients recovered
in spite of the disease & the doctor & because
of the great recuperative powers of their con-
stitutions are murdered scientifically.

187

The facts are told falsely & the operation of the remedial agents not accounted for, but on this slender basis an empirical & ephemeral practice is established.

We require some Locke in medicine to explore the vast chaos of medical literature & mark down what is known & what unknown & chalk out the way to future adventurers. For unfortunately medical writers have not ascertained the length of their line & consequently have ventured far beyond their depths.

The line of conduct was thus laid down by Celsus "that the perfect rule of practice is derived from a due combination of reason & experience; that without experience all preconceived theory would be vain & useless; & that by simple experience without any attempt at generalization, we should frequently fall into gross errors & be unable to profit even by the very experience which is so much extolled." These sentiments have been echoed by one of the ornaments of medical literature of modern times.

"Let us then conclude that all medical

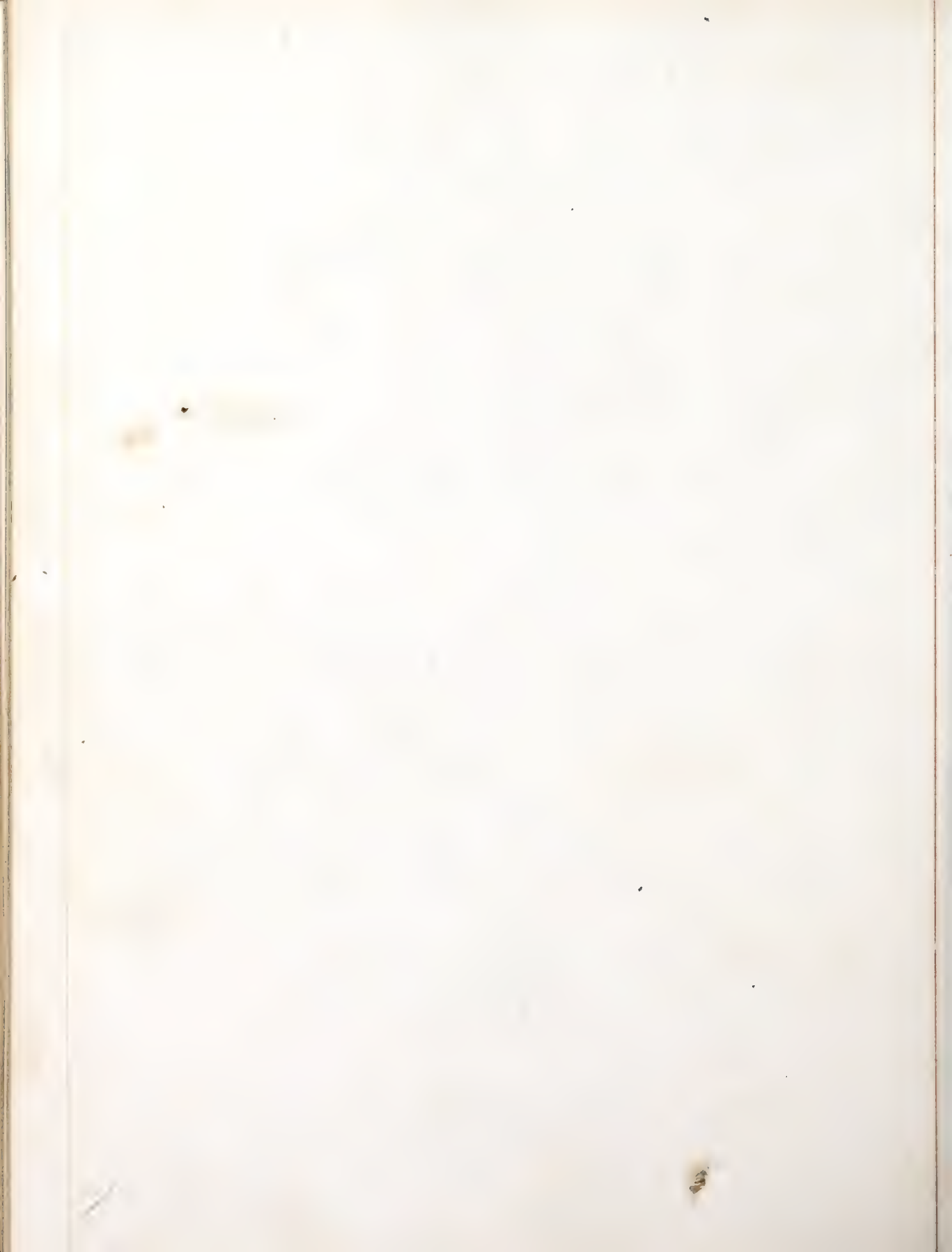
* And also prove that the investigation of disease: the discovery of causes by their symptoms & the adaptation of remedies, not to the disease only with all its accidental complications: but to the habit & age & sex & constitution of the patient, require such skill as can result only from extensive knowledge, sound judgement, and well directed enquiry.

19
Treatment is of no avail? That it is all imaginary
or deceptive? I should feel most unwilling to
be compelled to form such a conclusion. Nor
do I conceive that it necessarily follows from
the premises: but the fact certainly prove the
necessity of extreme caution in forming our
conclusions & still more that "mere experience
without the due combination of well regu-
lated theory is a most fallacious guide"

Boston Hist of med

*
Done in the City of Elms on the
Ninth day of Dec 1842 by
David Hughes A.B.
of Cape May
New Jersey

"Ex hoc momento pendet" - ?



XIV.

Dissertation
on
Dysentery

—By
Monroe Judson
of Newtown, Connecticut,
Candidate for the Degree of Doctor in Medicine.

Dysentery

This disease is one of the most important to which mankind are subject, it often appears in so violent a form as to defy the power of the most judicious medication; particularly in tropical regions. The character of this disease is inflammatory, having its seat in the mucous membrane of the large intestine. Its usual time of occurrence is during the latter part of summer or the fore part of autumn.

The symptoms of this ^{disease} are, in the first place a sense of lassitude, want of appetite, nausea, bad taste in the mouth, depressed pulse, slight chill, alternating with flushes of heat, thirst, dry skin, transient pains in the bowels, costiveness and occasionally diarrhoea. Sometimes this disease comes on suddenly with griping, mucus, and bloody stools and tenesmus, without any premonitory symptoms; and this is most apt to be the case when it arises from causes that ^{act} immediately on the mucous membrane of the intestine. The violence of the tenesmus a pretty correct criterion of the violence of the disease; termina

most severe just before the call to stool; constant soreness of the abdomen; evacuations, sometimes wholly mucous; more commonly mixed with blood sometimes altogether blood. The smell of the stool, at first disagreeable, but not fetid - towards the last, of a cadaverous penetrating fetor. In violent cases, colliquative diarrhoea sometimes comes on a few days before death. At first the tongue is coated with a white fur becoming brown rough and dry along the middle in the progress of the disease with red and moist edges. In cases of a protracted or subacute character the edges and tip of the tongue become clean smooth and florid; and in the chronic form of the disease the whole surface is often smooth clean and red; or red and granulated like raw flesh. The urine is always scanty and high ~~coloured~~ coloured and sometimes of a pungent odor. The hepatic and cutaneous functions are always inactive in this affection the urine discharges being always free from bile and the skin obstinately dry during the active period of this disease.

Causes. Obstructed perspiration from cold, or vicissitudes of atmospheric temperature, is a frequent

cause of mucous inflammation of the intestinal canal. A cold and moist autumn following a hot and dry summer is peculiarly favourable to the production of dysentery. It appears often to be the production of the combined influence of atmospheric vicissitudes and marsh miasmata. Sporadic causes are such as an immoderate use of unripe fruit; indigestible and unwholesome food; and a variety of other irritating substances received into the bowels. This disease is considered non contagious.

Prognosis. Where the discharges in the commencement consist entirely of blood it is much more easily cured, than where the stools consist chiefly of mucus, or mucus streaked with blood.

Copious discharges of blood in the commencement of the disease is said to be beneficial; perhaps by lessening the congestion in the portal vessels.

Colliquative and fetid stools in the advanced periods of the disease is indicative of much danger. A tympanitic state of the bowels when attended with a discharge of muco sanious fluid is an unfavourable sign. The appearance of bile and natural faeces in the stools indicate

a favourable change. When the torminae, tenesmus, and tenderness of the abdomen abate and at the same time the skin becomes moist we may regard the disease as tending towards convalescence and more certainly if the stools are of their natural appearance.

Treatment

There are four morbid conditions present in this disease which point out the general indications to be pursued in its remediate management: viz Inflammation of a greater or less extent of the mucous membrane of the intestinal canal; general irritated vascular excitement; torpor of the cutaneous exhalents; and disordered functions of the liver. According to these pathological conditions, the indications are first to moderate the febrile reactions of the heart and arteries, secondly to restore the regular action of the liver and skin; and thirdly to subdue the local inflammation of the bowels. As high arterial excitement is incompatible with the regular performance of these functions and tends

especially to augment and sustain the local intestinal inflammation the first indication in the treatment of this disease is to obviate the febrile excitement where it is excessive by blood letting: which is a very important and often indispensable auxiliary remedy, though rarely sufficient by itself to cure the disease.

Purgatives - active purgation in this disease is considered very injurious, mild laxatives however should be repeated almost daily; Calomel succeeded by castor oil or castor oil alone are excellent laxatives in this disease. The blue pill and other purgatives in conjunction with opium may be given with advantage; and to render their operations more certain and less painful spirits of turpentine with castor oil has been recommended.

Emetics have been recommended in this disease of which Ipecacuanha is perhaps the most efficacious though the tartar of antimony is recommended by most writers on this subject. Their beneficial effects are confined wholly to the commencement of this disease; in the latter period they are not only improper but highly injurious.

Diaphoretics are among the most valuable curative means, in this disease. After having adequately evacuated the bowels by mild laxatives, and bleeding having been practiced where the febrile excitement demanded diaphoretics in conjunction with calomel is the shield anchor of our hopes. Dover powder is an excellent diaphoretic in ^{this} disease on account of its conjoined anodyne and diaphoretic operations. Six grains of this article with three or four grains of calomel may be given every six hours. A combination of calomel opium and antimonial powder forms an excellent diaphoretic anodyne. *Eupatorium perfoliatum*. *Anthemis nobilis* and many other indigenous diaphoretics have been recommended in this disease. The employment of diaphoretics should be accompanied with the free use of tepid mucilaginous diluents. Calomel with a view to its constitutional influence is a remedy of excellent powers in this disease. It is however seldom necessary to excite ptyalism: the slightest mercurial action being generally sufficient to obtain its curative effects in this disease as it usually occurs in

temperate latitudes. In hot and insalubrious climates this disease frequently makes its attacks with great violence, and passes rapidly through its course. The liver generally suffers violently and often becomes disorganized in a few days. In cases of this kind the sooner the system is brought under the full influence of mercury, the greater, in general, will be the chance of the patient's recovery. Opium judiciously employed is strongly recommended by most writers on this disease—particularly in cases attended with intolerance of the slightest pressure on the abdomen, agonizing pain, constant tenesmus, and great pyrexia. In these cases the opium in large doses in conjunction with copious bleeding and large doses of calomel will often procure relief. It should be observed, however, that though a valuable remedy in this disease it should not be freely given in the beginning of the complaint, more especially when the febrile reaction is of a vigorous grade. In such cases, decisive bloodletting should be ^{phlogistic} premised. But even in cases of this general character, small doses of this narcotic in combination with laxatives

generally afford considerable benefit. After the disease has continued for two or three days, more frequent doses may be given in the diaphoretic combinations mentioned above. As the disease advances, opiates will become more and more necessary; and in the chronic form, or when the febrile reaction is weak; they are of primary importance.

Dr Eberle states that he used the pyroligneous acid in a case of obstinate subacute dysentery with marked success. The discharges previous to the employment of this article were very offensive - but in the course of twenty four hours they were greatly improved both in appearance and smell; and the patient soon began to convalesce under the employment of this remedy, in combination with small doses of some powder, calomel, and prepared chalks. Sugar of lead has also been used combined with opium or by itself in this disease. In general however all astringents of whatever kind especially the vegetable are improper in the early stages of this complaint, and very often wholly useless.

if not injurious even at later periods of the disease. There are however occasionally cases in which this class of remedies may be employed with great advantage. In general astringents appear to be much better adapted to the management of this disease as it appears in tropical climates—especially after the mercurial action has been gone through with and the bowels freely evacuated by laxatives. When in the advanced period the morbid secretions continue after the inflammatory symptoms have been subdued, astringents will sometimes afford considerable advantage. In these cases we may use the decoction of *staticea limonium*, *hencheria americana*, or the root of the *geranium maculatum*. Local bleeding is recommended by some in this disease especially in infants and young children. Blisters applied to the abdomen will often do good in cases attended with much tenderness and pain in that region. Fomentations and large emollient poultices applied over the abdomen in children particularly after bleeding, have been found to be very beneficial. Stimulating remedies may prove

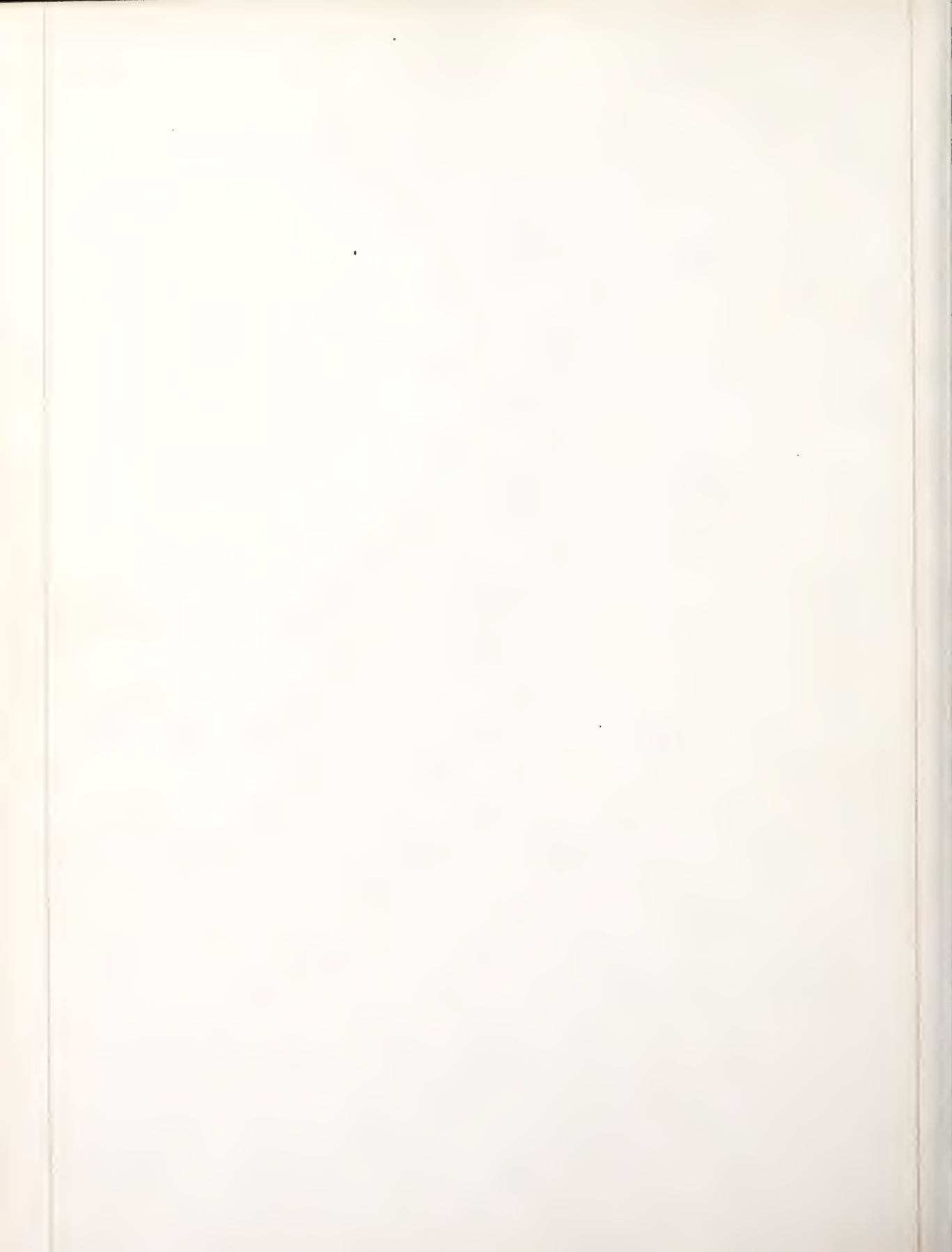
serviceable in the chronic form of this disease. For this purpose, a mixture of the oil of monarda punctata and camphorated spirits, in the proportion of one ounce of the former to two ounces of the latter, forms an excellent article, Where there is much abdominal tenderness, a portion of laudanum may be advantageously added to this mixture. After frictions with articles of this kind which should be repeated three or four times daily a broad flannel roller should be tightly worn around the body.

Anodyne and emollient enemata are almost always highly useful, many in the treatment both of acute and chronic dysentery. They are particularly beneficial in the dysenteric affections of infants and children. Infusion of flax seed - of slippery elm - or althea - or a liquid preparation of starch with a full dose of laudanum should be thrown into the rectum two or three times daily. Irrigations of this kind even without the anodyne, rarely fail to relieve for a time the distressing cramps and tenesmus, and predispose the bowels to move free again.

ations, from the operations of purgatives. During the whole course of the disease, mucilaginous drinks—such as solution of gum arabic, flax seed tea, infusion of slippery elm, of althea, or very thin preparations of arrow root, barley water, &c. should be freely allowed. All kinds of solid food must be avoided. Among the foregoing mucilaginous drinks the infusion of slippery elm bark is, perhaps the best. Along with its abundant mucilage, it possesses slight tonic powers—a combination of virtues which renders it particularly useful in cases of subacute or chronic character.

During convalescence from this disease, great caution should be used to avoid every kind of indigestible and irritating food. In general some of the milder vegetable tonic astringents will contribute considerably to the speedy confirmation of health. A weak infusion of the cornus sericea or of coccinia with nitric acid, are excellent articles for this purpose. Rice, barley, oat meal gruel, and boiled milk, are among the most suitable articles of diet after the subsidence of the disease.







XV.

Dissertation
on
The true Character of Medical Science.

By
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Candidate for the degree of Doctor in Medicine.



The true character of Medical Science.

It has been asked why it is that in an age of improvement when all departments of knowledge seem widening their spheres & extending their territories on every side and their several champions are straining every nerve to outdo their predecessors & to anticipate the fame of those who are to come after and are filling the world with the wonder of their achievements, Medicine alone should exhibit the singular spectacle of a science stationary and quietly contracting itself within the limits of past discovery. The physician's science, it is said seems to form a solitary nook in the domains of learning to which the rage of improvement has not yet extended, when enveloped in the shades & mists of antiquity its notaries inhumanly obsecurify.

"Peruse the noisepithecus of their society" content to "chew on wisdom - past" & to take the ^{eye of the ophthalmer} dicta of past ages for the axioms of infallible truth.

Now that along with some unrest

exaggeration in complaints like these there is so much solemn truth cannot be doubted.

Medicine presents a striking difference in the character of its facts from other sciences. No sooner is a fact ascertained in Astronomy a comet discovered or an eclipse predicted than the Journals all ring with the intelligence. Every body knows it. If a physician has enriched his science by a valuable discovery or an original observation, he never thinks of putting it into the common prints. It is lodged in a professional periodical. The facts which he discloses are not adapted to the public eye. The fastidiousness of taste would be outraged; the delicacy of sentiment offended. For this reason, I think we may see, that there is less correct knowledge of our profession in the community than of any other of so practical character. Still as we said before with all allowances, it still remains true that Medicine is far in the rear of improvement at the present day, & this is equally true whether we regard it as a science or an art.

As a science it can lay claim to no higher name than conjectural. Its principles are few; its axioms scarcely exist.

In the whole field there is not a point of microscopic bigness which is not debatable ground. Its conflicting systems are almost as numerous as its professors; the student may traverse the whole domain of Physics and find no foothold or resting place. Now I ask what is to be thought of a Science whose fundamental principles are disputed and denied whose very foundations have yet to be ascertained.

Whence shall we seek for the cause of this evil? Medicine is coeval with our race Hippocrates is called its father Hippocrates adopted it, but Adam was its legitimate sire. We have never found a people so savage as not to possess some rudiments of a healing art. Barbarians then have been who had no idea of the commonest arts of life without comforts, habitation or even religion but they had their doctors. Medicine then is out of its minority. Are its professors inferior to other persons in talent & capacity? This cannot be supposed. Is the difficulty then in the nature of the subject? Let us examine this point.

Our remarks, be it remembered apply only to medicine in its appropriate & specific sphere - to the treatment of disease by

therapeutic art. Surgery is a distinct science
distinct but not independent. The advantages
here afforded us over the unaided powers of
nature must appear immense, still more
when compared with the hands work of sur-
geons in the 13th & 14th centuries. This noble pro-
fession was crippled by a vile & degraded al-
liance. But as soon as it began to be something
more than its name implies, as soon as it be-
came hard work. the scalpel very naturally
dropped out of the barber-surgeon's hands. Ever
since Surgery & Surgery became distinct profes-
sions, the latter has made splendid improvements.
Anatomy was its foster father & guide. Still with
all its brilliant success we must be permitted
to rank it below its sister science of medicine.
They are sisters but she the younger & inferior.
It is comparatively a mechanical art, and
in it manual dexterity is more essential than
tact, sagacity & judgment. It is precisely for
this reason it has appeared to leave its col-
lateral branch so far behind. Mechanical
skill being far more common than acute & sa-
gacious observation, profound reflection &
wise forethought qualities among the rarer
of mental endowments.

If there is a science in the world to
which the principles of the Baconian philo-

applies with peculiar force as the very principle of its existence, that science is medicine. Medicine is emphatically exclusively a science of observation.

It is only by close observation of the phenomena presented to his view, and cautious induction from them that the physician can expect to arrive at truth. This is a fact which simple as it may appear in the noted statement of it has yet we think to be practically ^{new} dear by the profession before medicine can achieve any great results. Science in general, but medicine in particular has always had one deadly enemy to encounter - theory. Theory has always been, is still always will be the greatest bane of the profession. The propensity to generalize on insufficient evidence is owing to the impatience of the human mind. Men will make the conclusion precede the premise. Whatever may be thought of *a priori* arguments in metaphysics they are fatal in medicine. We know that when a writer has a theory in his head it will most certainly colour his facts. In what other way can we explain such phenomena as these. A man tells us he has for years been in the habit of employing a particular article in such & such cases. He has tested its power thoroughly & has never known it fail to cure or at least materially palliate the symptoms.

He has the testimony of numerous friends to the same effect. He specifies the mode in which it is to be used & the precise cases to which it is adopted. Having said this he proceeds to show that these effects are from the very nature of the case what ought to take place and what "a priori" might have been expected, in fact it was from such considerations he was himself led to try it. He has hitherto found it exceed his most sanguine expectations. To conclude he gives a long array of opposite cases fully confirming his statement. Although we might demur at the reasoning there is no gainsaying his facts for "facts cannot lie". We look about anxiously to see if this report shall be confirmed. How soon we hear this practitioner & that one complaining that he has been unable to procure any of the good results specified by the discoverer. The subject raises some commotion for a time is talked about & then quietly consigned to oblivion.

Having settled it that it is by observation alone that medicine can expect to make advances we see at once a very important distinction between the facts of this and other sciences & we see why medicine has & can have no axioms or general laws. A law is nothing but a fact of a more general application. We cannot

generalize beyond our facts. all else is inference or assumption. The discovery of a fact in Chemistry is the discovery of a general law. The expression of that fact is the enunciation of that law. Thus Newton having discovered that the moon gravitates to the earth with a force proportional to the amount of matter therein & as the square of the distance, he generalized the proposition & instead of saying the moon he said all matter is attracted in this ratio. When the Chemist has obtained the analysis of a fragment of chalk, he says Chalk (not this piece which I have analysed) has such & such a composition. The conclusion is legitimate & logical because the individual fact contains all the elements which enter into the expression of the general truth.

How is it with medical facts? A physician derives much benefit in such a case from a particular prescription as for instance Antimony in Pneumonia. Early in his conclusions he lauds Antimony in that disease. His next case we will suppose being of a typhoid character his ~~trial~~ ^{remedy} fails. Still impatient to generalize, he concludes it will only succeed in Athma cases. The next case is complicated his Antimony again deceives him. We give this as a specimen of the process of investigation. It is

evident that every fact must modify his conclusion and though at last when they become sufficiently numerous he may approach tolerably near the truth it must always be only an approximation. For it is obvious that the abstract proposition (if it is to be of any practical utility at all) must express more than is logically contained in the particular facts. Thus he concludes that Antimony is valuable in Pneumonia because it avails in one or a certain number of cases of that disease. But how can he be assured that every case of Pneumonia is identical in every respect with those on which he based his conclusions. He calls both Pneumonia ^{just} because a certain collection of phenomena are common perhaps even the organic lesions are the same but all this (do not make up the disease, they are the symptoms, the indices perhaps the effects of the disease, but are they the disease itself? So small a circumstance as the heat of the pulse shall change the whole character of the treatment, or even reverse it.

Since then in our profession, observation does not establish general truths but reveals the profoundest deductions and most ample generalizations still open to exception it is evident that medicine can be no other than a conjectural science so long as it exists. Doubtless many approaches will

be made hereafter to that ideal standard of excellence at which it aims, false observations will be corrected pernicious theories expunged and the relations of medicine and disease more accurately determined; but medicine can never be less than a misty & uncertain location in which the physician plays the part of the peacemaker (as it has been said) between nature and the disease. While the combatants are fighting in the dark, the doctor comes up armed with a club and strikes about him right and left; sometimes he hits nature & sometimes the disease.

Observation then being inadequate to advance the certainty of our science above the point of vague conjecture some would look abroad for aid.

Has not chemistry it is asked been of essential service to medicine? Is not the physician indebted to anatomy especially pathological anatomy for almost all his knowledge of the true nature of disease? He is no longer, it is said, compelled to grope in the dark; the dissector's knife has revealed the particular lesions of each disease; he knows what organic changes correspond to each symptom & he can prescribe accordingly.

Without detracting from anatomy as a useful auxiliary in some respects, ~~we~~ think its importance as concerns its bearing on the practice of physic

has been much overrated. It is to the Surgeon
that it renders the most efficient & indispensable aid
Indeed Surgery as a science, without it could not
exist. But to the practitioner its value is less
obvious. Anatomy lays open to our eyes the inter-
rior of the body; it shows us its hidden mecha-
nism "fearfully & wonderfully made"; it acquaints
us with the changes that disease induces, but does
it give us any hint as to the remedy? Could a
person who witnessed the congestion & hepatization
of a lung in Pneumonia predict that Antimony
or Calomel would discur it? The French path-
ologists have shown that ulceration of the mucous
follicles of the small intestines is an invariable
attendant on Typhus fever; but do the French
treat Typhus better than we do? Has the pathol-
ogy of disease as detected by microscopic examina-
tion entered the established treatment in any one
case? The discoveries of Sir Charles Bell have
been supposed to be an inestimable acquisition
to medicine, yet how small is their direct pra-
ctical bearing on the treatment of disease? A man
fall down & is picked up without sense or motion
in the lower half of his body. "My friend" says
the doctor "you have broken your spine across"
"Oh is that it doctor and can you cure me?" "Why
as to that - that is another thing" The man
no doubt wonders at the doctor's prodigious know-
ing

but does not find that it contributes at all to his cure. The antiquists who knew nothing about the doctrine of irritation or counterirritation could poultice a sore or draw a blister as well as we.

Still less able are we to discover the amazing extent of obligation that medicine is under to Chemistry. In truth Chemistry has very little direct bearing on our Science. It may be said that it has done away with many absurd theories which obstructed the progress of the Science. The same is true of anatomy, & yet we will venture to assert that where it has exploded one false theory it has substituted twenty. The only difference is that our theories are now a little plausible & philosophical. Instead of fermentations, vital spirits, worms, & noxious humours, we have acids and alkalis, oxygen & carbon, nervous influence, irritation & inflammation and a thousand other like words. All these the pathologists has hung up around him on pegs & when he is in want of a theory all he has to do is to stretch out his hand & take one down.

If it is urged that Chemistry has proved its service to medicine by the many potent & valuable agents she has placed in the physician's hand, I assent; but observe that their worth & application was first ascertained by observa-

at the bedside. It is the bearing of Chemistry on the Science of which we are speaking. Any other sort of service is another thing. In a similar sense, horses are valuable auxiliaries to medicine as they enable the physician to obey with greater dispatch the summons of his patient.

Having thus shown our trust, that it is from observation alone that improvement is to be hoped for in medical science, we are prepared to answer more particularly the question with which we started, Why is medicine so far behind other departments of knowledge at the present day? That this is the fact must be candidly conceded. We can only learn by making the truth from ourselves & others. The extreme uncertainty pertaining to it is appreciated both by professional & unprofessional persons.

The Sceptics can by no means be confined either to the outer court of the sanctuary. The young practitioner is apt to be confident & presuming in his resources. He imagines that no disease will be able to withstand his skill & the power of his remedies. But a very little experience is sufficient to shake this confidence. He gradually becomes more & more diffident & by the time he becomes gray headed he places far more reliance on the "vis medicatrix naturæ" & far less on the "vis medicatrix medicæ." Nothing but experience can teach this.

Thus in direct contrast to the theologian (the sum-
mary of whose duty is faith) the chief life of the
practitioner is doubt. He finds himself so often
deceived in his diagnosis, so often disappointed
in the powers and effects of his remedies that he
becomes distrustful & sceptical & from placing too
much reliance on remedial agency is often in dan-
ger of unduly discounting its ~~own~~ utility. We are
mistaken very much if this peculiar feature in
the medical profession has not materially con-
tributed to establish that spirit of religious scepti-
cism which has been often & justly charged
on its followers.

Among the causes which have retarded
the progress of our Science, is to be ranked pre-
most the intrinsic difficulties arising from
the nature of the subject. No other Science
based on observation & induction will compare
with medicine in the intricacy & complexity of the
phenomena. There are some ~~some~~ of organs in
the body which are more or less essential to life
& health. If those organs were perfectly independ-
ent in function of each other, & the effects of disease
in each perfectly uniform & characteristic, nothing
could be conceived more simple or delightful than
the treatment of disease. The practice of medi-
cine would be speedily comprised in mathemat-
ical formulae & prescriptions worked out by

the rule of three. But unfortunately it is for other
wise. The different parts of the human system
are neither independent in action & function nor
are their alterations from health marked by ^{any} uniform
& characteristic phenomena. Without being a physi-
cian St Paul could tell us that if one member
suffered all the rest suffer with it. So intimate
are all parts of the frame linked together
by organic sympathies & dependencies, that disease
in one part will perfectly & imitate disease in an-
other may actually produce it. and so far from
being uniform & characteristic the appearances
of disease are so protean as to baffle the
most experienced & confound the most sagacious.
Particular morbid states may produce very di-
fferent trains of symptoms and again precisely
the same symptoms may accompany very differ-
ent or opposite conditions of the parts within
or may exist with no structural lesion at
all, so that neither the scalpel nor the micros-
cope will help our diagnosis.

The first time a person saw a case of headache
perhaps he cured it by bathing the forehead with
the camphor. He then lays down the rule
that Camphor will cure headache. But the next
case is one of fever & here his camphor does not
equal his expectations. In this way he soon be-
lieves that he must prescribe not for a particu-

symptom but for the disease. But he is surpris-
ed to find that even in cases apparently alike
opposite treatment is required. He examines more
closely & discriminates more accurately. & then
scrutiny develops latent differences which had
not been supposed to exist. Hence it is that the
dignity & nobility of our profession shines out. Now
it is that the man of genius displays the superiority
of his tact, his penetration his sagacity. He detects
resemblances & differences where the more continued
the ordinary observer sees nothing. He links facts
conclusions of the most momentous consequence
with appearances so minute as to elude common
inspection & arrives at his indications by proce-
des too refined for common comprehension.

From this it will appear that unlike
other sciences Medicine is not contained in
books. The physician may get the elements
of his profession from his library, but the prac-
titioner's study is the sick room by the patient's
bed side. There is a tact & a delicacy of man-
ipulation which books cannot impart
& which cannot be handed down tradition-
ally. Very much of medicine is made up of
this kind of knowledge which is to be learned
by each man for himself. It is to be acquired
not in the contemplation of types & figures; it
will be read not in the character on the printed page

but by the sick bed and in the terrible ravage
of disease on the living frame, in what can be
seen by the eye heard by the ear or felt by the
hand. This knowledge is not stock to be gar-
nered up in libraries like the facts of history &
bequeathed to posterity. It is incommunicable
the physician dies & his knowledge dies with
him.

We have seen that the very nature of our
science limits its advancement & obliges it alwa-
ys to remain uncertain and conjectural. Nay
but a quack ever pretends to assurance. When
the chemist ^{pours} a drop of ammonia into a vegetable in-
fusion, he pronounces before hand that the
colour will be changed to green; because he is
sure of every circumstance that can influence
the result. But who has ever unravelled that intricate
chain of sympathy which binds into one all the vari-
ous functions of life? Who has discovered the true na-
ture of the vital principle? We see its effects
in the phenomena of mind & matter, but the light-
ning flash is not the lightning. We saw at the
hour of life, we lay open to view its surpassing archi-
tecture its regal furniture, but do we discover the
mysterious tenant, the invisible inmate? Alas long
before we have reached this "Ultima Thule" of our in-
quiries, we are forced to say in despair. "This know-
ledge is too high, wonderful; it is high, I cannot

attain to it." The physician's profession is an excellent practical illustration of the doctrine of changes. He always speaks in the potential never in the indicative mood. Nothing stands to reason in medicine.

Another cause of the backwardness of medical science is to be found in the prevalence of a hasty & superficial method of observation. Any one who takes up a medical work must be struck with the vast disproportion between the intricacy of the phenomena & the minuteness of the observation. Authors rarely pretend to specify their cases. One man recommends a particular article in such a disease; another says he has tried it in that disease and found it wholly useless. Now if the science of medicine consisted in a mere catalogue of authorities, it would outstrip every other. But it is things, not names that we want. facts not opinions. Opinions may clash, but facts cannot deceive. Let physicians then do what they have not hitherto done accurately & minutely detail their cases, and as every fact carries in itself the hidden germ of some great principle, a multiplication of such facts will eventually elicit it. The want of any accurate & systematic plan of observation has given rise to the use of a certain class of words of so vague & indefinite a meaning that they can scarcely be considered as the representatives of thought at all.

and which words having come into use have in turn been an excuse for more precise description. If the definition of speech given by some person that it was given to us for the purpose of disguising our thoughts was ever applicable to any subject it is to medicine. We feel that this sort of conduct cannot advance the cause of medicine. It will accumulate authorities & multiply books but it cannot promote truth. Very frequently an author without condescending to specify at all, will inform us that he derived much benefit from such a remedy in particular disease. How much better is this than house wife practice? Another perhaps will enumerate a few of the most obvious symptoms, but never thinks of giving a minute and accurate history of the whole case, comprising every circumstance which can be supposed to have any bearing on the subject. It was formerly supposed that inflammation was a unity and as such as much required a particular plan of treatment as a broken bone. More attentive observation has distinguished two species of inflammation differing in type & requiring opposite modes of treatment. As I have often done find this & that & the other author strenuously insisting on bloodletting as the commanding remedy in inflammation. Good for inflammation

as if inflammation was like the pyramids of Egypt
showing no variation or change. The E. woman
tells us Quinger & Cardman's seeds is a great specific
for windy bowels. & when the wine is troublesome
she warms her old stomach with them. The
doctor says he has given them with the best
effect in such cases but would not recommend
them if inflammation be present. Now which
~~the~~ respectfully ask is the bigger quantity. Yet it
is almost wholly of such observations that medi-
cine is made up to present. We have often thou-
ght it would be a great benefit to medicine
if diseases had no names; for physicians would
then be obliged to detail their cases minutely.
Many thanks to Monsieur Louis & his asso-
ciates of the French School for their labours
in this sphere. We hail this improvement as
the old way of making observation as the
happiest allegory that has appeared to our sci-
ence. It will constitute an epoch in medi-
cine. It will introduce accuracy & precision
into the science practice. It will open the
road to new discoveries. It will overturn
false facts. How many of the established dog-
mas of medicine will be able to stand in the
crucible of so rigid an induction?

S. A. Lea, B.A.





XVI.

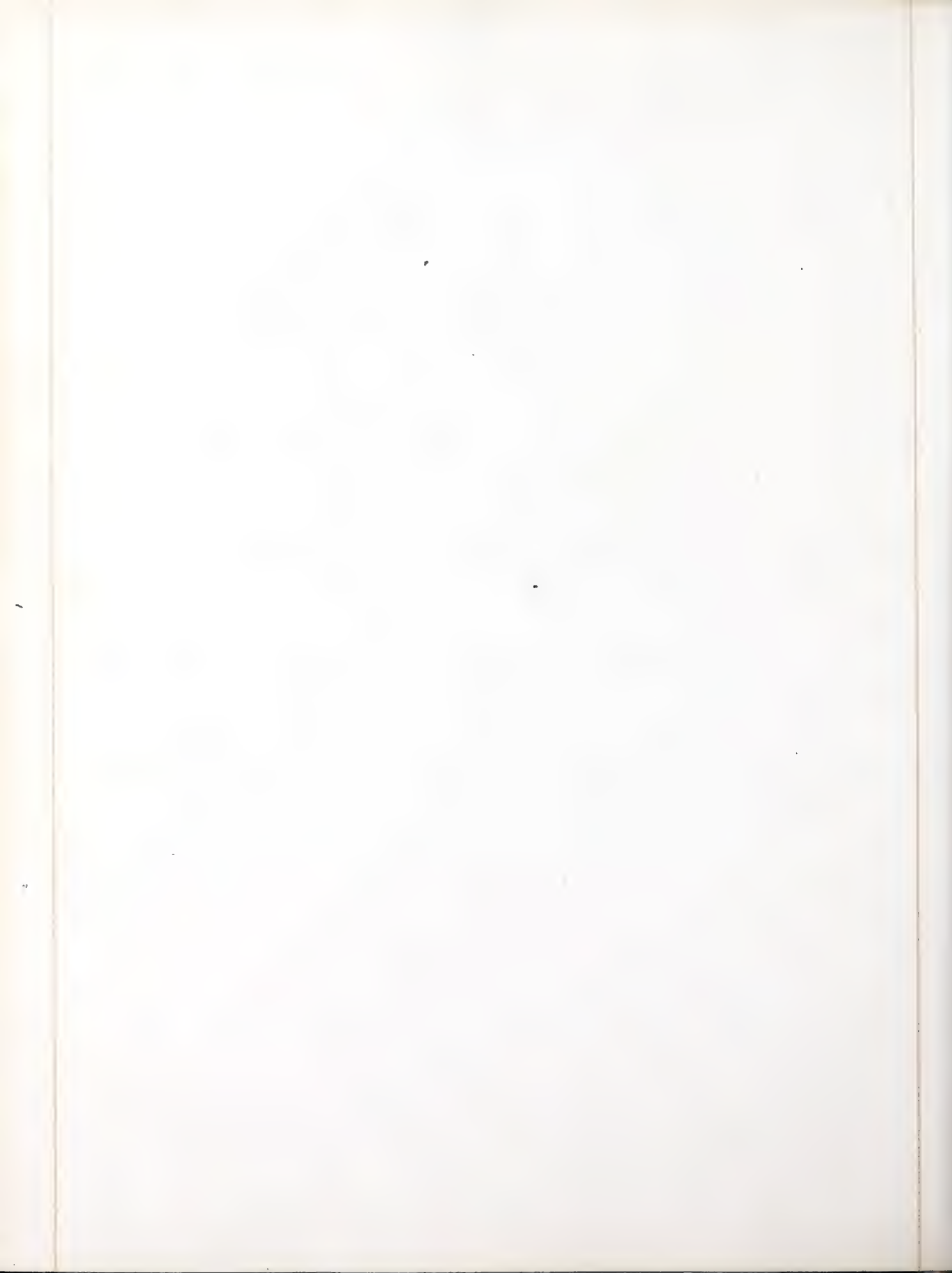
Dissertation
on
Apoplexy.

By
George Page, B.A. Middl.
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Apoplexy.

Apoplexy has, by different authors, been divided into many species, as into Apoplexia sanguinea, apoplexia serosa, apoplexia traumatica, apoplexia suffocata, apoplexia mentalis &c. &c. &c. &c. mentioned names have been given to different forms of this disease as it was supposed to be produced by different causes. And there has been a great deal of discussion concerning the proximate cause of apoplexy; but it would appear that these discussions were of little utility in reference to the treatment of this disease, as it is nearly if not quite impossible to decide from the symptoms whether an extravasation of blood or of serum has taken place; or whether there is merely an engorgement of the blood vessels of the brain. And if it were possible to discover the exact pathological condition of the brain, it



would not materially modify the treatment. All cases of apoplexy are to be treated upon the same general principles. There is not a distinct course of treatment for serous apoplexy and an entirely different method for sanguinous. The details must be varied according to the age and constitution of the patient — the severity of the disease or other accidental circumstances. There is no class of apoplectic affections which requires a distinct system of management.

Predisposition. There are certain circumstances which predispose to apoplexy. Peculiar conformations of body, as a large head, a short, thick neck, a florid complexion, broad shoulders, short stature with a tendency to corpulency indicate the apoplectic figure. Also at a certain period of life, this disease usually makes its appearance, that is between the

fortieth and sixtieth year; although it sometimes occurs at an earlier period of life. Certain habits of life also predispose to it. These habits are such as tend to produce a general state of plethora, to drive an undue quantity of blood to the brain, or to prevent its free return to the heart. Hence it is that full living, habitual intoxication, too great an indulgence in sleep, intense and long continued thought, have always been accused of tending to apoplexy.

It is rare that an attack of apoplexy occurs without premonitory symptoms, though these are often so transient and variable as not to be regarded, while the general health remains good. These premonitory symptoms are a sense of fullness in the head, giddiness, throbbing of the carotid arteries, ringing in the ears, head-ache, temporary loss of recollection, numbness in some



part of the body, and partial paralysis.

Symptoms. In a paroxysm of apoplexy the patient falls down suddenly with a total abolition of sense of motion and lies like a person in a deep sleep. Sometimes the apoplectic seizure commences with an acute pain in the head, sickness of the stomach and transient loss of memory. After a few hours the patient gradually sinks into a perfect coma. Sometimes the disease commences with a paralysis of some part of the body and the patient gradually passes into a comatose state. In either way the attack commences there are certain appearances which demand the attention. The pulse, at first, is small and irregular; but as the system recovers from the shock, it becomes strong, and slower than natural. The breathing is difficult, slow and sometimes irregular. This laborious breathing, in the severer forms of the



disease, is accompanied with stertor.

There is, in some cases, a frothy saliva excreted from the mouth, and blown away from the lips with considerable force. The skin is usually warm and covered with perspiration. The face is commonly pale; and the pupils dilated. The muscles of deglutition are generally so much impaired as seriously to interfere with the administration of medicines. The bowels are very torpid, so as to resist the action of powerful cathartics, as is usual in cases of cerebral congestion.

Prognosis. In forming our prognosis, we should be influenced by the duration of the fit and the severity of the symptoms present. If the patient has given evidence of feeling when a limb has been grasped, or the lancet used; if the pupil obeys in a certain degree the stimulus of light; if the power of swallowing has not been totally



lost; if there is no stertor, or if the premonitory symptoms were not strongly marked, there are some hopes of a recovery. Yet it is rare that a complete recovery takes place: a palsy of some part of the body may remain, or the memory be injured, or an imbecility of mind be left. But, besides this, in every case where a decided apoplectic attack has taken place, a relapse is to be dreaded; and recovery from a second attack, though sometimes witnessed, is a rare event.

Appearances on dissection. Extravasion of blood in some part of the encephalon, is by far the most common appearance. Such extravasation may take place in any part of the brain or on its exterior surface. It may proceed from the arteries or veins. The quantity of fluid effused is as various as its situation; and the violence of the symptoms is found to bear a reference partly to the quantity, and partly to the seat



7.
of extravasation. Slight effusions are considered to be more dangerous in some parts of the brain than in others. For example, it is believed that an effusion upon the medulla oblongata is accompanied with more alarming symptoms, than when occurring in the anterior lobes of the brain. The next most usual appearance in those who die of apoplexy, is the effusion of serum, either upon the surface of the brain, or within the ventricles. In some cases, there is found great engorgement of the blood vessels, but without extravasation of blood or effusion of serum. These are the usual appearances presented on examination of those who die of apoplexy, but now and then a case presents itself, in which no morbid condition of the brain can be discovered.

Treatment. When an attack comes on, bleeding is the first and most important remedial measure. This lessens the circulation of blood in the brain and



8
favors absorption. It is advantageous to abstract a large quantity of blood in a short time, and for this purpose it might be advisable to open a vein in each arm at the same time. All ligatures should be removed from the neck, and the head should be elevated. Cold water or ice should be applied to the head, stimulating injections administered, and as soon as the patient can swallow, he should take a drop of croton oil every two hours, till the bowels be moved. The patient should be placed in a large, airy room, and every thing which has a tendency to excite the brain should be removed, such as light and noise. Emetics and tonics have been recommended by some. Where an individual is ^{seized} with apoplexy immediately after taking a full meal, an emetic might be advisable; but even under such circumstances it would be improper to rely upon it, to the exclusion of all other remedies.



9
Prevention. Apoplexy is a disease so exceedingly fatal, that prophylactic measures should be used, whenever there are any indications of its approach and frequently such exist. Preventive measures consist in avoiding everything likely to excite the heart to undue action, or that hinders a free return of blood from the head. Particular causes which predispose should be ascertained. If it consists in repelled eruptions or suppressed evacuations, they should be restored. If full diet or the use of intoxicating liquors have caused indications of this disease, the habits should be changed. If there are any symptoms of paralysis, bleeding and purgation should be resorted to. Those threatened with apoplexy should lay aside all business that occasions anxiety of mind, or that requires much mental effort, should take moderate exercise, be careful in their diet, lay aside all stimulating liquors and sleep but little. They



should be careful to avoid the extremes
of heat and cold. Sometimes an attack
can be averted for quite a number
of years by such measures.

George Page

Med. Insti. N. C.
Jan. 1843.

XVII.

Dissertation
on
Pleuritis.

By
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Pleuritis - Pleurisy.

By this term is meant an Inflammation of the Pleura - the membrane investing the lungs, and lining the cavity of the chest. It is by a large proportion of the medical men of the present day, often confounded with inflammation of the lungs themselves; and the writings of the ancients make no distinction between this disease and Pneumonia, some considering it as an inflammation of the pleura, others of the lungs, while others still maintained it to be an inflammation both of the lungs and of the membrane covering them, or sometimes of one and sometimes of the other. It is only within a very recent period that any definite distinctions have been drawn between these two diseases, and the question of their identity has been discussed and not very satisfactorily decided by some of the most eminent writers of the present century. The true seat of the disease is now generally admitted by pathologists to be the serous membrane lining the cavity of the thorax. There is no doubt that Pleurisy and Pneumonia are very frequently combined; if not at first, often in their progress or termination; but still, generally, they appear as distinct diseases, different in their character, and requiring different modes of treatment.

There are two forms of this disease described by authors, the Acute and Chronic.

Symptoms of acute Pleurisy.—In the forming stage there is great lassitude and general anxiety, succeeded by cold shivering, and after reaction by an increased frequency, hardness, and regularity of the pulse; skin hot and dry; urine scanty and high coloured. In addition to these symptoms, there is generally acute pain in the side, dyspnoea, cough, and recumbency on the affected side. The fever is high from the commencement, but generally lasts only for a few days. These are the ordinary symptoms of Pleurisy; but there are few practitioners who have not proved the fallacy of each, and as we shall presently point out, the descendant finds uncertainty in all of them. The stitch in the side, the distinguishing mark of the ancients and many moderns between this disease and Pneumonia, is not always present. In some cases, where the Pleura alone is inflamed, it is scarcely perceptible, or only momentarily, and sometimes is altogether wanting; and in certain cases, where violent Pneumonia is complicated with a very slight Pleurisy, there is sometimes a most violent pain in the side. The stitch however is the most constant symptom, and it may exist in any part of the chest, or it may extend over the whole of it; it is increased by coughing and by inspiration; pressure on the intercostal spaces has no effect on it, unless the pleurisy is of a rheumatic character. The dyspnoea is not so perceptible to the patient as one might expect; it will vary in intensity at different times, owing

to the quantity of serum effused. The cough is not a constant attendant, sometimes it is altogether wanting, at others infrequent and dry. Expectoration, if it exists, is scanty, consisting of mucus, sometimes streaked with blood. The patient most generally lies on the affected side, though in some cases the opposite is preferred.

Inflammation of the pleura could be recognized by no physical sign if it were not attended by serous effusion; and it is an interesting and satisfactory result of the researches of modern pathologists, that this is almost universally the case. It is interesting as a point of general pathology, that inflammation of serous membranes should necessarily produce an effusion; and it is satisfactory, because it furnishes us with the least fallible of all signs upon which to found our diagnosis. It takes place from the very commencement of the disease in most cases; in others it does not come on until near the termination, and in some instances it does not make its appearance at all. These latter cases go by the name of dry pleuritis, but are not very common. This secretion consists of two very different kinds of matter; the one a firmish, loath white, semitransparent substance, termed fibrine or coagulable lymph; this forms the adhesions which often take place in this disease. They after a time become organized, blood circulates through them, and the patient may experience no inconvenience, except a slight difficulty

of breathing after severe exercise. The other is a transparent watery fluid, of a light yellow colour, called the serum or serous purulent effusion - sometimes poured out in great, at others in inconsiderable quantity. The albuminous exudation is in greater proportion when the inflammation is most violent. In debilitated subjects, on the contrary, the serum is more ~~abundant~~ abundant; in such cases, the pleurisy seems to pass insensibly into Hydrothorax.

The sounds produced by this secretion must be our guide in distinguishing this disease from Pneumonia, and this can most generally be, arrived by one who has paid any attention to the two diseases. The pressure of the effused fluid compresses the substance of the lungs, by which it is rendered a better conductor of sounds, transmitting the vocal resonance, and the sound of air in the bronchia, in health unheard. The first signs of this accumulation are obtained by percussion; a dull sound is given out over the part percussed, as though it were solid. The resonance of the chest is commonly diminished first in the lower part of the cavity; this gradually extends upwards, becoming more distinct as the quantity is larger.

But
mediate auscultation furnishes us with much more certain means

of discrimination between the two diseases, and enables us to ascertain with precision, not merely the existence of the effusion, but its quantity. The sound which is peculiar to Pleurisy is the aegophonic, which appears to be caused by the resounding of the voice through a thin portion of fluid collected within the cavity of the thorax, sounding more like the echo of the voice than the voice itself. It has been compared to the beating of a goat, being more like that than anything else. This is not present in all stages of the disease. It may be wanting in some cases, when there is not effusion enough to compress the air-cells of the lungs. In other cases, effusion may have taken place into the cavity of the pleura, filling it entirely with fluid, and no sound will be produced, as air cannot enter the lung; and still in others, the sound may have been heard, but the fluid may be reabsorbed, and the cause of it removed. As a general rule, by attending to this sign we can commonly distinguish Pleurisy from Pneumonia, as distinct diseases; but when they are combined, the characteristic sounds of the two are so blended as to lead us to confound these diseases.

Another sign which indicates effusion into the pleura is an enlargement of the affected side; this only takes place when the effusion is great. It may

not be observed by one who is unacquainted with the disease, but to a practiced eye it is rarely overlooked. There are other signs which are not uncommon in this disease, and which take place only when the effusion is copious, such as depression of the liver, and some have observed a similar appearance of the spleen when enlarged. By an attentive consideration of all these signs, with the general symptoms, we hardly ever need be at a loss in discriminating between Pleurisy and Pneumonia.

Terminations.—This disease ~~may~~ may terminate in

1. Resolution, which is marked by gradual subsidence of all the symptoms; the surface becoming more moist, the pulse more slow and soft, the urine not so scanty and high coloured, and the breathing less painful, and at longer intervals.

2. Adhesion of the pleura pulmonalis with the pleura costalis. This is of very frequent occurrence, and not a very unfavorable termination. Many persons have extensive adhesions without suffering any serious inconvenience from them during life, and may live in this state for a great many years.

3. Suppuration.

This will, in the greater number of cases, be the termination,

if not prevented by proper treatment in the commencement of the disease. The symptoms of it usually show themselves as soon as the sixth or seventh day. It is indicated ^{by} rigors as severe as those which marked the accession of the disease, or if anything more severe, and by the pain, which before was somewhat wandering, now becoming more fixed. The respiration is less painful, but more oppressed. All the symptoms of Empyema are now present, and in this stage Hætic occurs, which if not relieved is followed by its fatal consequences.

4. Effusion, which is the most common termination. This usually takes place from the commencement of the disease, and should hardly be considered as a termination, but as a part of the disease itself, as much so as the secretion from mucous surfaces when unobscured. When it does take place all the symptoms of Hydrothorax become manifest. The dyspnoea becomes immediately more urgent, and the vessels of the face are considerably engorged, the countenance having a livid appearance, which is owing to a want of proper aëration of the blood. At the same time there is a sudden remission of all pain and fever, with great prostration, and if the tendency to effusion is not counteracted, the patient is destroyed by suffocation. The difficulty of breathing is aggravated by

exercise, and by the recumbent posture. There is also a sense of weight and oppression, which is referred to the pit of the stomach, and is probably owing to the pressure of the effused fluid upon the diaphragm. As soon as effusion has taken place, the natural sound on percussion is lost over the whole space occupied by the fluid; but one who is well acquainted with the disease, can in most cases point out the exact height of the fluid; and with the stethoscope, a total absence or great diminution of the respiratory sound; and the appearance, disappearance, and return of uégophony, will be detected. When the effusion is considerable, the respiration becomes peculiar on the sound side, and the diseased side is larger than the other. When a severe pleuritis terminates by extensive adhesions, the parts of the pleura thus affected are rendered less susceptible of future attacks of inflammation, and when it happens, the adherent portions of the pleura will not throw out the effused fluid.

5. Gangrene—This is a very rare termination of acute, but sometimes supervenes upon chronic pleurisy. When it does occur, it is preceded by all the symptoms which take place in gangrene of any other part; great prostration of the vital powers, such as sinking of the pulse—cold extremities, hicough, stupor, loss of sight, and

death soon closes the scene.

Acute Hemorrhagic Pleurisy.

The acute form is sometimes accompanied by hemorrhage, usually slight, which takes place at the very height of the disease, and is most generally followed by fainting, and an oppressed and scarcely perceptible pulse. It evidently controls the inflammatory action, but greatly retards the cure, for the effusion is generally greater and the tendency to absorption much diminished, owing to a general debility of the whole system, or it may be simply of the absor-
ents, so that a cure when it does take place is much more protracted; and it is this which makes these cases more generally put on the chronic form. On this account, also, chronic contractions of the chest, which are so common sequelae of this form of the disease, are much more liable to occur, owing to the long compressed state of the lungs, inflammation being excited in the air-cells, and adhesion taking place between their surfaces, so that after the absorption of this fluid the lung does not expand so as to fill up the cavity, and as would naturally be expected, the rising in of that side of the chest must follow; without, as sometimes happens, the filling up of this cavity by air, and a cure being effected in this way.

Chronic Pleurisy, is of

two kinds — first, it may be chronic from its origin; and second, acute Pleurisy may become chronic after having run its course for some time. In the first variety, the disease comes on almost imperceptibly, and so little attention being paid to it at first that the patient does not apply for advice until perhaps one lung is rendered entirely useless, and that side of the chest filled with purulent matter. Great emaciation and loss of strength take place, and the patient is supposed to be running down with consumption. The general symptoms are usually such as practitioners would consider indicative of Phthisis — coming on, as it usually does, with a slow fever, chronic catarrh, and sometimes purulent expectoration; and if it were not for the aid of percussion and auscultation, it would be impossible to distinguish them. These cases constitute the purulent Empyema of the lungs.

Acute Pleurisy becomes chronic after having continued for some time, owing either to improper treatment or to a debilitated state of the system. The symptoms are different from the form of chronic pleurisy which we have just described; the fever, which has been very high from the beginning,

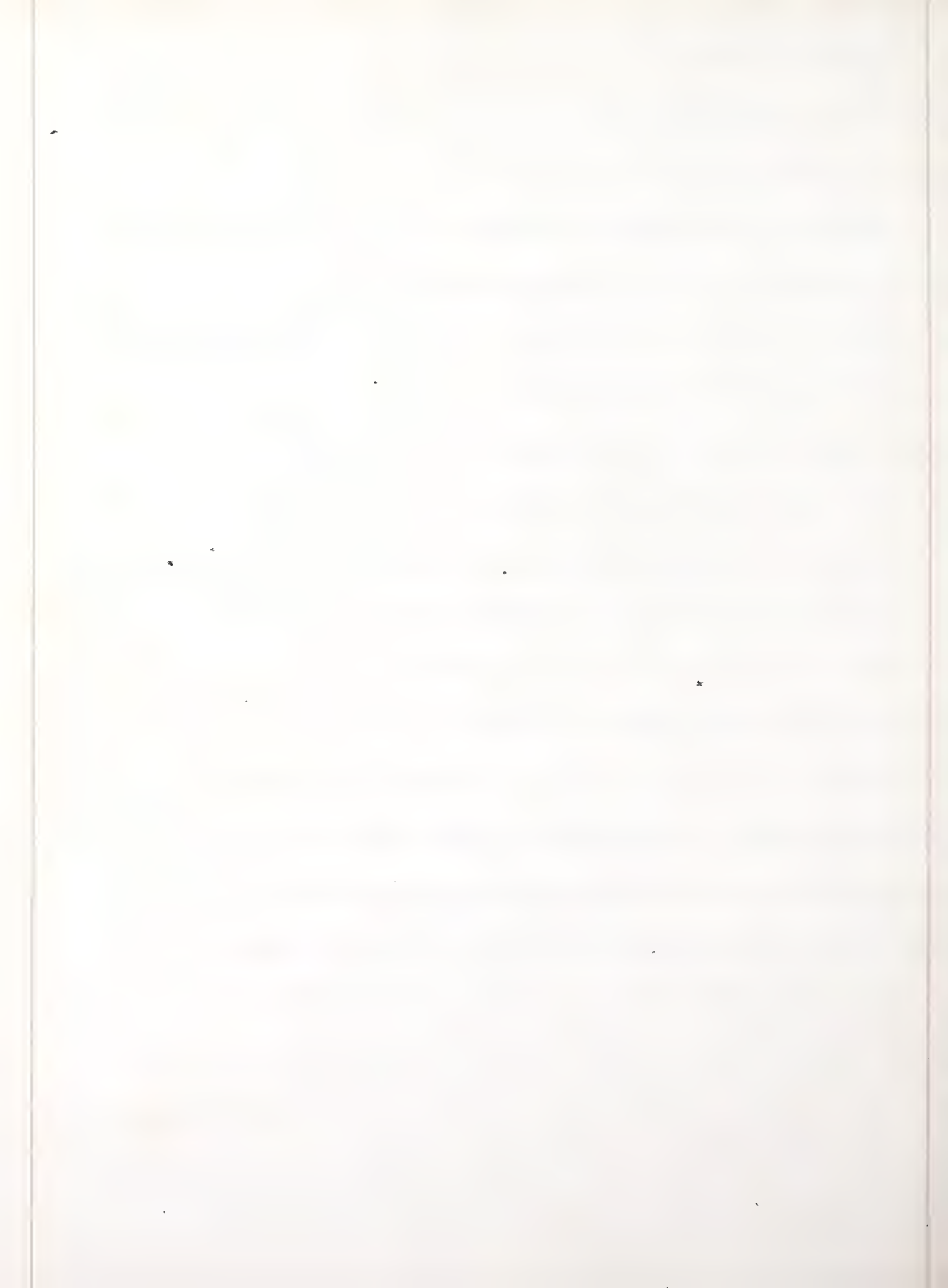
gradually diminishes - the pain abates or entirely subsides - the breathing is very much accelerated after severe exercise; and if the patient has been imprudent, the fever recurs with more severity, but does not last long. It differs from the first variety in no other way.

Causes. - There are of two kinds, the predisposing and exciting. Among the first, we saw sanguineous temperament, vigorous and athletic habit of body, winter and spring seasons, sudden variations of temperature, intemperance, and tubercles in the lungs have sometimes produced it.

The exciting causes are those of inflammatory diseases in general. The most common of all, is the application of cold after violent exercise; sleeping in a damp and cold room, metastasis of rheumatism, suppression of natural evacuations, and strong passions of the mind. Causes purely mechanical have sometimes produced the disease, such as a blow on the chest, or fracture of the ribs.

Prognosis.

When the skin, instead of being dry and hot, becomes soft and moist, a free perspiration breaking out over the whole body, the urine becoming more copious, and



depositing a sediment, with perhaps the occurrence of diarrhea; if with these symptoms the breathing is more free and easy, the sound on percussion more clear—in such cases we may predict a favorable termination. On the other hand, if the countenance becomes livid, the breathing ^{more} oppressed, and the sound by percussion duller, the ægophonic sound becoming suddenly extinct, and all the symptoms indicating an increase of the effusion, or if suppuration takes place, our prognosis is unfavorable. Coma not unfrequently attends, and is a highly dangerous symptom; most generally it appears in the latter stages of the disease, or immediately after a great secretion of serum.

Morbid Anatomy.

On opening the chest, there is usually a quantity of bloody serum found in its cavity, and in some cases purulent matter. The surface of the Pleura is inflamed, covered with red vessels, and showing every degree of vascularity, from the faintest blush of redness, to that which is characteristic of the most intense inflammation. There may also be present, adhesion to any extent, from that of the smallest point up to the total obliteration of the cavity. The lung may be found wanting, suppuration having

taken place, or it may have been compressed into so small a place that it never could have expanded so as to perform its office

Treatment. As this disease is marked by high antonie action from the beginning, the most important remedy is the lancet. Bloodletting is borne better and is more efficient in inflammation of serous membranes than in any other tissue. If we see the patient while the stitch in the side and the restrained and cautious respiration are present, we may bleed him in an upright position until syncope is produced, or the pain is relieved, and he can draw a full inspiration with ease and satisfaction. If the pain returns, we should have recourse to bleeding again, and this may be either general or local; if the latter is chosen, cupping should be preferred to leeches, as a greater amount can be taken in less time and with much greater benefit to the patient. In bleeding, all physicians have noticed the much greater advantage which has been derived when blood has been taken from a large orifice and in an erect position in all inflammatory diseases, but in none more so than in this. The high inflammatory symptoms present here - the full tense pulse, the severe pain,

and the state of the blood, which is much cupped and
buffed - indicate strongly the propriety of bloodletting.

Digitalis, being an article which diminishes the action
of the heart and arteries, has been recommended in
this disease, as a substitute for bloodletting; but it is so
uncertain in its operation, and sometimes produces such
alarming symptoms, that it has been abandoned for
its sedative operation, by the greater proportion of med-
ical practitioners. It is however a remedy which if not
abused, is one of the most valuable, not so much for
its sedative as for its diuretic effect. Its operation is such
that if given with prudence, and its effects watched from
time to time, that we need have no fear in prescribing
it. Its sedative operation is most prominent, and in
giving it we must be cautious in producing that effect.
When it has been given sometime, and the effect that we
wish not produced, and unpleasant ^{symptoms} seems to arise from
it, its use should be discontinued for a while, when it may
be again resumed if symptoms indicate it.

The evacua-
tion next in importance to bloodletting is purging.
This is an expedient which in cases of violent inflamma-

tion or high general fever should scarcely ever be omitted. To keep the bowels open forms indeed a part of the antiphlogistic regimen, but in acute inflammatory diseases active purging is of very great service. The stomach and intestines are freed from accumulated faeces or other irritating matter, and at the same time depletion is carried on by means of the serous discharge which is produced from that large extent of mucous membrane. There are some forms of inflammation, and this is a prominent one, in which the operation of purgatives, as Calomel, Jalap, Elettarium, the neutral salts &c., are of essential service.

Tartar Emetic, which is so useful in inflammation of ~~the air passages~~ the mucous membrane of the air passages, is not adapted to inflammation of the pleura. On the other hand, Mercury, from its well known power to check the effusion of coagulable lymph, is especially indicated. It is to be given with a view to its specific effect on the system; that is, in equal doses, repeated at frequent and regular intervals, and guarded by a small quantity of opium. In very severe cases, or where the internal employment is in any way contraindicated, recourse must be had to the

external application of strong mercurial ointment.

Opium. This article is valuable in this disease to allay the pain and nervous irritation, which are always more or less present. It may be given alone or in combination with those articles that produce Diaphoresis such as Antimony, Ipecac. Camphor.

Counter irritation

by blisters and irritating ointments is required, and they may be used in any stage of the disease. There is an objection to the use of counter irritation during the height of the inflammatory fever, on account of the increase of general irritation which it then occasions; and it is also said, as a general rule, that in inflammations it should not be applied anywhere but the part affected. This is true, but in Pleurisy blisters to the chest are not only perfectly safe, but one of the greatest use. The ceratum cantharidis is generally used, but in effusion into serous cavities the tincture of Iodine, or a solution of the corrosive sublimate is frequently applied, and with the best effect. The Tartaric ointment is also used for the same purpose.

After the inflammatory action has been in some degree subdued, the next important remedies

are Diuretics. The large amount of fluid which is collected in the cavity of the pleura is to be removed, and this may be effected by the use of Hydragogue cathartics, or of Diuretics - There are very few practitioners, who have any idea of the large amount of fluid which is here collected, and from the frequency of the disease, and its tendency to become chronic, the cure of the patient is often very protracted. The fluid may in some cases be absorbed immediately, but in a great proportion of cases it must take a long time. In giving Diuretics it is well to combine several, as greater benefit is derived, from the fact that some operate on the kidneys, others on the absorbents, and come in both ways. *Cantharis* and *Digitalis* are the most important, but there are others which are equally good, as the Bitartrate of Potash, *Scilla Maritima*, and a great number of the indigenous articles - the *Asclepias*, *Collinsonia Canadensis*, *Sanguinaria Vernalis*, *Polygala Senega*, and the *Pentstemon procerus*.

Expectorants. - This is a class of medicines of very great use in the latter stages of Pleurisy. By exciting action in the Bronchial membrane, or translating action from the serous membrane of the lungs, to the mucous membrane, they are in some cases followed by the best effect.

George Edwin Perkins



XVIII.

Dissertation
on
Phloridzin.

By
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of Berlin, Connecticut,
Candidate for the Degree of Doctor in Medicine.

Phloridzin

This substance, which is now receiving much attention in various parts of Europe, was first noticed by Professor Geiger of Heidelberg in Germany, as existing in the bark of the trunk and roots of the apple, pear, cherry and plum trees.

The name is derived from two Greek words *phloos* and *szu*, signifying the inner bark of the root.

It was first obtained in a separate state by Dr Koninek, who gave it the name of Phloridzite.

The processes for obtaining it, as given by Thompson are as follows. The fresh bark of the root of the apple tree is boiled for two hours in a quantity of water sufficient to cover it. This water is decanted off, and the boiling repeated with a second portion, and this last decoction must be kept from the first. It commonly deposits in twenty-four hours a considerable quantity of granular crystals of Phloridzin, which when dissolved in distilled water, and treated with animal charcoal are rendered quite pure. an additional quantity may be obtained by ~~evaporating~~ evaporating the liquid down to one fifth. In this state of concentration it deposits

the whole Phloridzin which it contains when left at rest for a couple of days. The bark of apple tree root when treated in this way, yields about three percent. By another process we may obtain about five percent. Digest the fresh bark of the root in weak alcohol at about the temperature of 122° . The digestion is continued from eight to ten hours when a greater part of the alcohol may be distilled off, and the residuum set aside to crystallize. The first crystals obtained, are whiter than those obtained by the first process but are to be purified in the same manner.

All the processes mentioned by authors agree very nearly with the above.

That by which I obtained this sample was similar to the first mentioned. The bark used was from the roots of the apple tree, it was boiled in two portions of water for something more than an hour each. The liquid was poured off, and here I may remark there is no necessity whatever of keeping the two portions separate from each other as directed by Thompson. after cooling, in from thirty to forty hours, the Phloridzin was deposited, having

a deep red velvety appearance.

This I attempted to purify by treating with animal charcoal as recommended, but did not succeed. I then washed it upon a strainer with cold water, removing as much saccharine and other foreign matter as possible, evaporated the remainder to dryness, then dissolved the whole in alcohol and filtered through animal charcoal, after evaporating the alcohol, the result was Phloridzin such as you see, possessing the properties ascribed to it by Dr Koninek.

Sensible Properties

Phloridzin is of a dull yellowish ~~brown~~ white color, crystallized in silky needles. Its taste is both bitter and sweet, the former being quite permanent, the taste remaining in the mouth for a considerable length of time.

Chemical Properties

It is scarcely soluble at all in cold water, that fluid at 72° or lower dissolving only one thousandth part of its own weight of it. From 76° to 212° it dissolves it in all proportions. It is entirely soluble in absolute alcohol at

the common temperature of the atmosphere, but is very little soluble in ether. It has no action upon vegetable colors. Its specific gravity is 1.4289, nearly one and five tenths, when heated to 212° it loses all its water of crystallization, and when it is thus once driven off it is not again absorbed even in a moist atmosphere. It melts at 262° , and boils at 350° at 379° it begins to be decomposed, a small quantity of benzoic acid is formed, some acetone, and a brown oil heavier than water.

The concentrated acids dissolve it without decomposition while it retains its water but when anhydrous it is strongly attacked by sulphuric acid and forms a reddish brown solution. Nitric acid acts in a similar manner while cold, but by heat it converts it into oxalic acid, muriatic acid converts it into a white insoluble substance which separates

The alkalis dissolve it without alteration.

Chlorine, Bromine, and Iodine, act upon it with violence, producing a brown resinous substance, which is insoluble in water but soluble in alcohol,

much heat is evolved. and muriatic, hydrobromic, and hydriotic acids are respectively given out.

Persulphate of iron gives with solution of -
Phloridzin a yellowish brown precipitate, and
perchlorid of iron a very dark brown precipitate.

The protosulphate of iron has no action. the
same may be said of the neutral mettallie salts.
Aqueous solutions of chlorine throw down a
yellowish precipitate.

Gelatine produces no action on its solutions.
Its analysis affords Carbon. Hydrogen and oxygen.
There are two analyses given the first is that
of Petersen, one hundred parts are taken and he
gives

Carbon 56.16

Hydrogen 5.82

Oxygen 38.02
~~100.00~~

The second is by Dr Koninck, he takes the same
quantity and gives Carbon 51.0

Hydrogen 5.6

Oxygen 43.4
~~100.0~~

The two differing widely in the proportions owing
probably to the greater or less degree of purity of
the article operated upon.

Are we then to consider this an acid or alkaline substance?

from the manner in which it unites with Bromine, Iodine, Iron &c. and from its composition viz. Carbon, Hydrogen and Oxygen. I am inclined to think it an acid, analagous to the Tannic and Gallic acids, though I believe no author considers it as such, to prove this point satisfactorily, it will require a larger quantity of the article and numerous experiments.

Medical Properties.

That but little is known concerning this article or its peculiar properties is evident both from the very short accounts given of it amounting in all to but few small pages and those as would appear mostly copies one from the other, and also from the many and various names given it by different writers,

For instance Phloridrinum, Phlororhizinum,

Phloridria, Phlorizine, Phlororhizin,

Phloridrine &c -

Says Braithwaite in his Retrospect of practical medicine and surgery for 1842 Part 5.th

Phloridrine that being the name he gives it is a new medicine which is very highly spoken of by French practitioners as a useful adjunct to our cinchona preparations. It has been used for some years in Germany, Poland and France.

I would rather say an old medicine in a new and advantageous form.

M. Lebaudy editor of one of the French medical Journals. says. "Its efficacy is so decided that we cannot hesitate to class it among the most powerful febrifuges; and it has this advantage over Quinine, that it never produces Gastralgia".

Dr Koninck found that from ten to fourteen grains given for a dose with a dram of sugar produced the most marked effects in intermittent fever, where Quinine had failed.

In four cases reported by Dr Van Mons of Bruxelles, the disease was arrested by the first sixteen grains; other cases required sixteen grains a few hours before the first paroxysm; twelve grains before the second; six before the third, and four before the fourth.

Five successful cases are likewise given by

N. Nathysen at the Hospital St Pierre.

Bruxelles: It was administered in one case by way of lavement twenty-four grains being given in ~~four~~^{three} lavements.

The paroxysm returned, but was less violent. In two days afterwards the same quantity was given in the same manner, and the fever did not return.

Not having had a sufficient quantity of the substance, or any cases of intermittent, I can do no more than give the evidence of foreign practitioners upon this point.

But one only, so far as I know denies its febrifuge power.

Professor Ives of this Institution^{to}, administered a small quantity, with which I furnished him to a patient that had been troubled for a long time, with various chronic affections, as Hemorrhoids, disturbance of the digestive organs generally, pains in the back &c. in doses of two grains, three times a day, for ten days with evident abatement of the symptoms.

The article being all consumed, the experiment

of course stopped.

He is disposed to think very favorably of it. considering it a valuable Tonic and Stobstruent. allied to Salicine possessing all its medicinal powers. and in addition the one last named. he also believes it to act particularly upon the mucous membranes. thus rendering it very serviceable in numerous diseases. arising from or dependent upon ~~the remaining~~ ~~the~~ morbid action of those tissues.

It may be administered in form of pill. or mechanically combined with sugar in form of fine powder.

The use of the crude barks of which this is the active principle. has long been well and popularly known. both to the Physician and the Peasant. and their efficacy in most of the diseases mentioned. and also many others. is so well understood. by the learned and experienced. Gentlemen before me. to require comment from me at the present time. without that experience which ~~renders~~ makes the science approach perfection. and whose mind

is already too much confused, by forcing upon it all the various branches of medicine in the short space of sixteen weeks. (a time far too short thoroughly to master any one branch taught here.) to treat of any single part as it deserves.

Thus have I described in a hasty and doubtless very imperfect manner a substance which promises much and which I trust will soon receive that attention by medical men in this which it has received by those of other countries that they may at least keep pace with them, and that we may have at our command every remedy, which will aid in the performance of our duty, that of alleviating the sufferings of our fellow mortals.

C. B. Whittlesey

New Haven, Yale Medical Institution

January 18th 1843









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